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*FOR THE THIRTY-SECOND SESSION*

*1897-1898*

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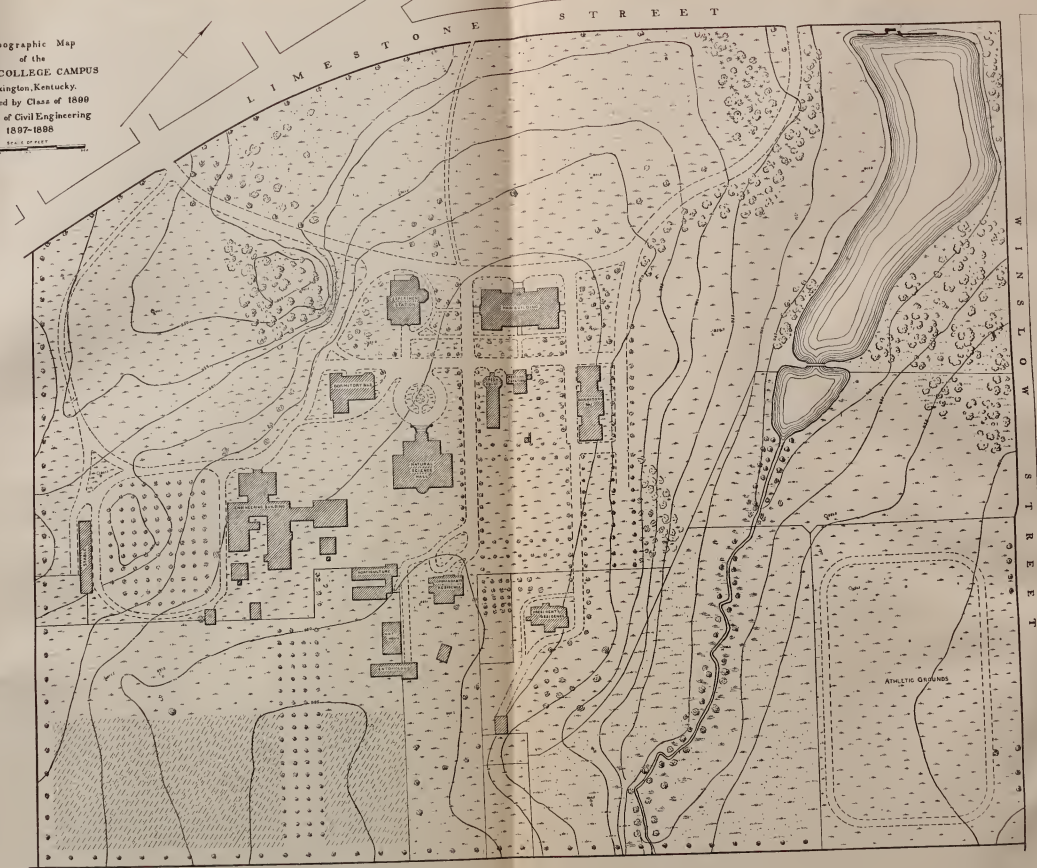








Topographic Map  
of the  
ATE COLLEGE CAMPUS  
Lexington, Kentucky.  
Surveyed by Class of 1890  
School of Civil Engineering  
1887-1898







CATALOGUE

360  
78

62  
103  
204

OF THE

OFFICERS, STUDIES, AND STUDENTS

OF THE

STATE COLLEGE OF KENTUCKY,

LEXINGTON,

WITH A PART OF THE REGULATIONS,

FOR THE

SESSION ENDING JUNE 2, 1898.

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LOUISVILLE:

JOHN P. MORTON & COMPANY.

1898



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# THE STATE COLLEGE OF KENTUCKY.

## HISTORY.

**A**GRICULTURAL and Mechanical Colleges in the United States owe their origin to an act of Congress, entitled "An act Donating Public Lands to the several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts," approved July 2, 1862. The amount of land donated was 30,000 acres for each representative in the National Congress. Under this allotment Kentucky received 330,000 acres. Several years elapsed before the Commonwealth established an Agricultural and Mechanical College under the act. When established it was not placed upon an independent basis, but was made one of the Colleges of Kentucky University, to which institution the annual interest of the proceeds of the Congressional land grant was to be given for the purpose of carrying on its operations. The land-scrip had meanwhile been sold for fifty cents per acre, and the amount received—\$165,000—invested in six per cent. Kentucky State bonds, of which the State became custodian in trust for the College.

The connection with Kentucky University continued till 1878, when the act of 1865, making it one of the Colleges of said University, was repealed, and a Commission was appointed to recommend to the Legislature of 1879-80 a plan of organization for an institution, including an Agricultural and Mechanical College, such as the necessities of the Commonwealth required. The city of Lexington offered to the Commission (which was also authorized to recommend to the General Assembly the place which, all things considered, offered the best and greatest inducements for the future and permanent location of the College), the City Park, containing fifty-two acres of land, within the limits of this city, and thirty thousand dollars in city bonds, for the erection of buildings. This offer the county of Fayette supplemented by twenty thousand dollars in county bonds, to be used either for the erection of buildings or for the purchase of land. The offers of the city of Lexington and of the county of Fayette were accepted by the General Assembly.

By the act of incorporation, and the amendments thereto, constituting the charter of the Agricultural and Mechanical College of Kentucky, liberal provision is made for educating, free of tuition, the energetic young men of the Commonwealth whose means are limited. The Normal Department, for which provision is also made, is intended to aid in building up the Common School system by furnishing properly qualified teachers. This College, with the additional departments which will, from time to time, be opened as the means placed at the disposal of the Trustees allow, will, it is hoped, in the not distant future, do a great work in advancing the educational interest of Kentucky. Being entirely undenominational in its character it will appeal with confidence to the people of all creeds and of no creed, and will endeavor, in strict conformity with the requirements of its organic law, to afford equal advantages to all, exclusive advantages to none. The liberality of the Commonwealth in supplementing the inadequate annual income arising from the proceeds of the land-scrip invested in State bonds, will, it is believed, enable the Trustees to begin and carry on, upon a scale commensurate with the wants of our people, the operations of the institution whose management and oversight have been committed to them by the General Assembly of Kentucky.

#### LEADING OBJECT.

In the act of Congress making provision for the class of colleges to which the State College partly belongs, it is declared "that their leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life." To the departments contemplated in the act, a Normal School has been added by the State and an Experimental Station by the United States.

#### THE NORMAL SCHOOL.

The Normal Department of the State College exists under the authority of acts of the General Assembly, approved April 23 and April 29, 1880. Section 7 of the first act briefly defines the object for which the Department was established, "a Normal



Department or course of instruction for irregular periods, designed more particularly, but not exclusively, to qualify teachers for common and other schools, shall be established in connection with the College." The second act provides the necessary endowment to make the Department effective.

The number of students annually enrolled in the Normal School has exceeded expectation. As they come from all parts of the State, and many of them return well prepared for the profession of teaching, they must greatly promote the efficiency of our common schools generally, and demonstrate the wisdom of the General Assembly in providing an inexpensive Normal School, centrally located and easy of access, to keep the State always supplied with well-trained teachers.

#### THE KENTUCKY EXPERIMENT STATION.

This Department of the State College originated in a resolution of the Executive Committee of the Board of Trustees, adopted in September, 1885, when the Department was organized and a Director appointed. In 1886 the Station was recognized and named by the General Assembly, and in 1887 it and a similar Station in every other State were each endowed by Congress with an annual appropriation of \$15,000.

The work of the Station is directed to two objects: 1. To a constant succession of experiments made by specialists, in order to learn what applications of science will insure the best returns from the farm, the garden, the orchard, the vineyard, the stockyard, and the dairy. 2. To the publication of bulletins announcing such results of the experiments as are found to be valuable to any of our people that seek profit from either of those prime sources of wealth—the soil, the flock, or the herd.

Results of experiments have been published in nine reports and seventy-three bulletins, and general appreciation of their utility is shown in the fact that, while no bulletin is sent except upon application for it, the mailing list of the Station contains more than 8,000 names, and is ever increasing.

With an ample endowment, a large and commodious building planned for the purpose, adequate apparatus, a good experimental farm conveniently situated, and seven capable scientists always employed and in correspondence with other stations, The Ken-

tucky Experiment Station is not only an important adjunct of the College in the education of students for the leading industrial pursuits, but directly or indirectly through the wide and continual diffusion of knowledge for the benefit of so large a proportion of our population, it is bound to be extremely useful to the Commonwealth at large.

### LOCATION.

The Agricultural and Mechanical College of Kentucky is established in the old City Park grounds of the City of Lexington, given to the Commonwealth for this purpose. The site is elevated, and commands a good view of the city and surrounding country.

Lexington is now the most important railroad center in Kentucky, being in immediate communication with Louisville, Cincinnati, Maysville, Chattanooga, and with more than seventy counties in the Commonwealth. The long-established reputation of the city for refinement and culture renders it attractive as a seat of learning, and the large body of fertile country adjacent, known as the "Blue Grass Region," with its splendid stock farms, affords unsurpassed advantages to the student of agriculture who desires to make himself familiar with the best breeds of horses, cattle, sheep, and swine in America.

### GROUNDS.

The campus of the College consists of fifty-two acres of land, located within the corporate limits of Lexington. The South Limestone Street electric car line extends along the greater part of its western border, giving opportunity to reach in a few minutes any part of the city. The campus is laid out in walks, drives, and lawns, and is planted with a choice variety of native and exotic trees and shrubs, to which additions are constantly being made. A portion of the land has recently been reserved for a botanical garden in which will be grown the more desirable native plants, with a view to testing their adaptability to cultivation, and to give increased facilities to students taking agricultural and biological courses. Two and a half acres, forming the northeast portion of the campus, inclosed and provided with a grand stand, is devoted to the field sports of students.

About three quarters of a mile south of the campus, on the Nicholasville pike, an extension of South Limestone Street, is the Experiment Station Farm, consisting of forty-eight and a half acres. Here the field experiments of the Station are conducted, and students have opportunities to witness tests of varieties of field crops, dairy tests, fertilizer tests, fruit-spraying tests, in short, all the scientific experimentation of a thoroughly equipped and organized Station. The front of the farm is pasture and orchard. The back portion is divided off into two hundred one-tenth acre plots, for convenience in making crop tests.

### BUILDINGS.

The main college building is a structure of stone and brick, 140 feet long and 68 feet in width. It contains the office of the President and of the Business Agent, and on the third floor, counting the basement floor as one, is the chapel, in which each day the students and Faculty meet, and in which are held public gatherings and such other meetings as bring together the entire student body. The remaining space in this building is occupied by recitation rooms and by the society rooms of the students.

The Station building is a handsome structure, well planned for the object for which it is made. It is seventy feet in length by fifty-four feet in width, with a tower projection in front, and an octagonal projection eighteen by eighteen on the north side. The building is two stories high, and a basement eleven feet from floor to ceiling. The main entrance is on the first floor, on the west side of the building, through an archway fifteen feet wide. The basement is occupied in part by the Station and in part by the College. The next floor above is devoted to office and laboratory work of the Station, while the upper floor accommodates the College work in Chemistry.

The building devoted to Mechanical Engineering covers altogether an area of about 20,000 feet, is constructed of stone and pressed brick, and is well furnished with modern conveniences for work in this branch of engineering.

Two large brick dormitories on the campus afford boarding conveniences for students who wish to lessen expense in this direction. Other buildings on the campus are a brick dwelling for the President and a cottage occupied by the Commandant.

Science Hall, built during the last year for the Departments of Natural Science, is 96 x 97 feet, of pressed brick trimmed with Bowling Green limestone. The wide halls, the numerous and spacious lecture-rooms, laboratories, and offices in its three stories are well lighted, well furnished, and conveniently arranged.

On the Experiment Farm are a brick dwelling occupied by the Director of the Station, and the usual farm buildings for the care of tools, the protection of stock, and the like.

### DEVELOPMENT.

The growth of the College from year to year is shown in the following summary :

1862. To establish and endow a college, chiefly for instruction in agriculture and the mechanic arts, an act of Congress apportioned to each State, for each of its Senators and Representatives in Congress, 30,000 acres of the public land.

1865. The General Assembly of Kentucky having accepted the State's portion under the conditions prescribed, established the Agricultural and Mechanical College, making it one of the colleges of Kentucky University, then recently united with Transylvania University and located at Lexington, citizens of Lexington and its vicinity donating \$110,000 to the Curators of the University to buy a site for the College. The General Assembly having authorized the Commissioners of the Sinking Fund to sell the 330,000 acres apportioned to Kentucky, by the mismanagement of the Commissioners' agent the State realized for its land only \$165,000.

1866. The College opened with a President, four Professors, and a Commandant.

1878. Dissatisfied with the management of the College by the Curators, who were engaged in a long factional strife, the General Assembly severed the connection with the University, and appointed a commission to re-locate the College, to provide for its continuance in operation till re-located, and to prepare "a plan for a first-class University." Kentucky University claiming and retaining the former site of the College, the sole property left the latter after the severance was an income of \$9,900 derived from the land-grant.

1880. The City of Lexington offering the City Park of fifty-two acres as a new site for the College, and also \$30,000 in bonds, and the County of Fayette offering \$20,000 besides, the General Assembly ratified the selection of a site made by a majority of the commission, and located the College permanently in Lexington.

1880. To provide teachers for the Common Schools of the State and for other schools, the General Assembly added to the College a Normal



Department, which should admit, besides other students, one from each representative district every year free of tuition.

1880. To further endow the College and to enable it to purchase apparatus, machinery, implements, and a library; to maintain the Normal Department, and to defray other necessary expenses, the General Assembly imposed a tax of one-half cent on each hundred dollars of the assessed value of all property in the State liable to taxation for State revenue and belonging to its white inhabitants.

1880. The Classical and Normal Departments and the Academy added.

1882. The College Building, the First Dormitory, and the President's House completed.

1885. The Commandant's House reconstructed.

1887. To enlarge by experiments and to diffuse the knowledge of agriculture, an act of Congress established, under the direction of the Agricultural and Mechanical College in each State, an Agricultural Experiment Station, appropriating for its support \$15,000 per annum.

1887. The Department of Civil Engineering established, an experimental farm of forty-eight acres purchased, and the College greenhouse built.

1889. The Experiment Station Building completed.

1890. The Second Dormitory completed.

1890. For "the more complete endowment" of Agricultural and Mechanical Colleges, an act of Congress appropriated to each State \$15,000 for the year ending June 30, 1890, and the same sum with an increase of \$1,000 per annum for ten years, after which the maximum of \$25,000 should continue without change. Of the amount thus annually appropriated, the College receives 85 per cent. and the school of the colored people at Frankfort 15 per cent.

1891. The Department of Mechanical Engineering established.

1892. The Mechanical Building and Workshops completed.

1894. Greenhouses for the Experiment Station built.

1895. The Annex to the Mechanical Building and the Insectarium for the Station built.

1897. The Department of Electrical Engineering established. Additions made to the Greenhouses and Insectarium.

1898. The Building for Natural Science completed.

*Increase of Property*—The property of the College is estimated to be worth \$500,000 more than it was eighteen years ago.

*Increase of Teachers*—Before 1880 the College had six Professors; it now has sixteen Professors and eight Assistants.

*Increase of Courses*—Before 1880 the College offered a single course of study leading to a degree; it now offers eight.

*Increase of Graduates*—No fact more distinctly marks the growth of the College than the increase in the number of its graduates. More students were graduated in 1897 than were graduated in the first seventeen years, and more in the last five years than in the first twenty-seven.

# BOARD OF TRUSTEES.

---

HIS EXCELLENCY GOVERNOR WILLIAM O. BRADLEY,  
CHAIRMAN EX-OFFICIO.

PRESIDENT JAMES K. PATTERSON,  
MEMBER EX-OFFICIO.

## TERM EXPIRES JANUARY, 1900.

GEN. D. C. BUELL, . . . . . Paradise, . . . . . Muhlenberg County.  
J. C. FLOURNOY, ESQ., . . . . . Fulton, . . . . . Fulton County.  
HON. J. T. GATHRIGHT, . . . . . Louisville, . . . . . Jefferson County.  
HON. A. P. GOODING, . . . . . Mayslick, . . . . . Mason County.  
HON. W. F. PEAK, . . . . . Bedford, . . . . . Trimble County.

## TERM EXPIRES JANUARY, 1902.

GEN. E. H. HOBSON, . . . . . Greensburg, . . . . . Green County.  
JOHN G. MATTHEWS, ESQ., . . . . . Barbourville, . . . . . Knox County.  
HON. HART BOSWELL, . . . . . Lexington, . . . . . Fayette County.  
JOHN B. KENNEDY, ESQ., . . . . . Paris, . . . . . Bourbon County.  
CAPT. THOMAS TODD, . . . . . Shelbyville, . . . . . Shelby County.

## TERM EXPIRES JANUARY, 1904.

D. F. FRAZEE, . . . . . Lexington, . . . . . Fayette County.  
JUDGE WILLIAM H. HOLT, . . . . . Frankfort, . . . . . Franklin County.  
JOSEPH I. LANDES, . . . . . Hopkinsville, . . . . . Christian County.  
J. B. MARCUM, . . . . . Jackson, . . . . . Breathitt County.  
R. C. STOLL, . . . . . Lexington, . . . . . Fayette County.

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## EXECUTIVE COMMITTEE.

JOHN T. GATHRIGHT,  
*Chairman.*  
HART BOSWELL,  
A. P. GOODING,  
JOHN B. KENNEDY,  
THOMAS TODD.

---

VICTOR E. MUNCY,  
*Secretary of the Board and of the Committee.*



# FACULTY.

---

(In the order of appointment.)

JAMES KENNEDY PATTERSON, PH. D., LL.D., F. S. A., *President.*  
*Professor of History, Political Economy, and Metaphysics.*

JOHN SHACKLEFORD, A. M., *Vice-President,*  
*Professor of English and Logic.*

JAMES GARRARD WHITE, A. M.,  
*Professor of Mathematics and Astronomy.*

JOHN HENRY NEVILLE, A. M.,  
*Professor of Greek and Latin.*

WALTER KENNEDY PATTERSON, A. M.,  
*Principal of the Academy.*

JOSEPH HOEING KASTLE, PH. D.,  
*Professor of Chemistry.*

RURIC NEVILLE ROARK, PH. D.,  
*Principal of the Normal School.*

JOSEPH WILLIAM PRYOR, M. D.,  
*Professor of Anatomy and Physiology.*

FREDERIC PAUL ANDERSON, M. E.,  
*Professor of Mechanical Engineering.*

CLARENCE WENTWORTH MATHEWS, B. S.,  
*Professor of Botany, Horticulture, and Agriculture.*

ARTHUR MCQUISTON MILLER, A. M.,  
*Professor of Geology and Zoölogy.*

MERRY LEWIS PENCE, M. S.,  
*Professor of Physics.*

SAMUEL MILLER SWIGERT, CAPT. 2D CAV., U. S. A.,  
*Commandant and Professor of Military Science.*

PAUL WERNICKE,  
*Professor of Modern Languages.*

JOHN PASCAL BROOKS, M. S.,  
*Professor of Civil Engineering.*

## ASSISTANTS.

JOHN LEWIS LOGAN, A. B.,  
*First Assistant in the Academy.*

ROBERT LEE BLANTON, M. LIT.,  
*Assistant in Greek and Latin.*

JOSEPH MORTON DAVIS, A. B., B. S.,  
*Second Assistant in the Academy.*

VICTOR EMANUEL MUNCY, B. S.,  
*Third Assistant in the Academy.*

JAMES HENRY WELLS, M. E.,  
*Assistant in Mechanical Engineering.*

JAMES RICHARD JOHNSON, B. M. E.,  
*Assistant in Shop-work and Drawing.*

ERNEST FRANK BROWN, A. B.,  
*Instructor in Elocution.*

CHARLES RALPH STURDEVANT, M. E., E. E.,  
*Assistant Professor of Electrical Engineering.*

SAMUEL CARRUTHERS DEBOW, B. M. E.,  
*Laboratory Assistant in Experimental Engineering.*

MILFORD WHITE, B. C. E.,  
*Assistant in the Normal School.*

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## OTHER OFFICERS.

MISS LUCY BERRY BLACKBURN,  
*Monitress.*

JAMES GARRARD WHITE,  
*Business Manager.*

JOSEPH WILLIAM PRYOR, M. D.,  
*Surgeon of the Battalion.*

MISS MARY HODGES,  
*Stenographer.*

VICTOR EMANUEL MUNCY,  
*Secretary of the Faculty.*

# THE KENTUCKY EXPERIMENT STATION.

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## BOARD OF CONTROL.

HON. A. P. GOODING, <i>Chairman</i> , . . . . .	Mason County.
HON. HART BOSWELL, . . . . .	Fayette County.
JOHN B. KENNEDY, ESQ., . . . . .	Bourbon County.
PRESIDENT JAMES K. PATTERSON, <i>Ex-officio</i> , . . . .	Lexington.
DIRECTOR M. A. SCOVELL, <i>Ex-officio</i> , . . . . .	Lexington.

## OFFICERS OF THE STATION.

MELVILLE AMASA SCOVELL,  
*Director.*

ALFRED MEREDITH PETER,  
*First Chemist.*

HENRY ERNEST CURTIS,  
*Second Chemist.*

HARRISON GARMAN,  
*Entomologist and Botanist.*

CLARENCE WENTWORTH MATHEWS,  
*Horticulturist.*

VICTOR EMANUEL MUNCY,  
*Meteorologist.*

EDWARD RHORER,  
*Stenographer.*

JOSEPH NELSON HARPER,  
*Superintendent of Field Experiments and Dairyman.*

## DEPARTMENTS.

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The studies of the State College are distributed into sixteen Departments, each in charge of a responsible head, the heads constituting the Faculty. Chronologically the Departments are:

- I. History, Political Economy, and Metaphysics.
- II. Botany, Horticulture, and Agriculture.
- III. The English Language and Literature.
- IV. Military Science.
- V. Chemistry.
- VI. Mathematics and Astronomy.
- VII. Modern Languages.
- VIII. Greek and Latin.
- IX. The Academy.
- X. Pedagogy, or the Normal School.
- XI. Civil Engineering.
- XII. Mechanical and Electrical Engineering.
- XIII. Anatomy and Physiology.
- XIV. Geology.
- XV. Zoölogy.
- XVI. Physics.

# COURSES OF STUDY.

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## I. DEPARTMENT OF HISTORY, POLITICAL ECONOMY, AND METAPHYSICS.

PRESIDENT PATTERSON.

The course of instruction in this Department includes an outline of Ancient, Mediæval, and Modern History. Attention is given to the various forms of government, their characteristic features and points of difference, to the progress of civilization, the origin and development of parliamentary government, the rights and duties of citizenship.

In the period covered, Modern History and the History of England and the United States occupy the most prominent place.

Walker's Science of Wealth is made the basis of instruction in Political Economy. Students are, however, made familiar with the principles upon which rest the rival doctrines of Protection and Free Trade.

The study of Mental and Moral Philosophy extends through one year. Sir William Hamilton is used as the basis of instruction in Metaphysics, and Janet in Morals. Concurrently with recitations from these authorities, the pupil is made familiar with the principles upon which rival systems of philosophy and morals are based and the arguments by which they are maintained. Ancient and modern systems are thus brought under review, and the necessary data furnished upon which to ground intelligent opinions.

## II. DEPARTMENT OF BOTANY, HORTICULTURE, AND AGRICULTURE.

PROFESSOR MATHEWS.

This Department occupies rooms on the first floor of the Natural Science Building, including a general laboratory, an advanced laboratory, an instructor's office, and a lecture room.

Each laboratory is suitably furnished with tables, water and gas fixtures, charts, etc., and the lecture room with opera chairs,

a stereopticon, etc. The further equipment, both for elementary work and for the use of advanced students, is new and of the best quality, and includes an ample supply of compound and dissecting microscopes for the individual use of each student, several first-class microtomes, ovens, and sterilizing apparatus, together with delicate balances and other apparatus for the study of plant physiology.

Among other facilities for study, the Department possesses a greenhouse (20 x 50 feet), giving an opportunity for the continuous study of living plants throughout the winter months and for experimental work in plant physiology.

The herbarium contains a nearly complete representation of the flora of Kentucky, with a considerable number of foreign exchanges. It was primarily due to the efforts of Dr. Robert Peter, who made a quite extensive collection of Kentucky plants about sixty years ago, and also exchanged specimens with the prominent botanists of that day, thus forming the nucleus of the present collection, which therefore possesses considerable historical value. Constant additions are now being made to the herbarium by collecting excursions over the State and by exchanges with other institutions.

The Department Library is receiving constant accessions of carefully selected books, and already contains the most important botanical and horticultural works of reference, and these, as well as the best current literature upon these subjects, are freely available to students during college hours.

For the study of horticulture and agriculture, many of the appliances already mentioned are again utilized, and in addition the very complete equipment of the Experiment Station incidentally affords superior opportunities for the instruction of students.

The Horticultural Department of the Station (which is also under the charge of the Professor of Botany and Horticulture) has an excellent forcing and greenhouse plant upon the college grounds, consisting of four glass houses of the most approved methods of construction, containing 4,000 feet of glass, in addition to hot-beds and cold frames outside. These houses are run to their full capacity through the winter months in the conduct of experiments upon the culture of lettuce, radishes,



tomatoes, cauliflower, and other vegetables, and upon the various methods of plant propagation.

The extensive list of varieties of vegetables and fruits growing upon the Experiment Farm gives an opportunity for a comparative study of varieties rarely if ever found upon the ordinary farm.

The College campus contains a large number of ornamental trees and shrubs, and these with numerous varieties of annual and perennial flowering plants give the pupil a good opportunity to study ornamental horticulture.

In the distinctively agricultural studies the operations of the farm department of the Experiment Station furnish an excellent opportunity for the study of the effects of various fertilizers, varieties of wheat, corn, and other field crops, and the many problems of dairying.

In order to give special attention to dairy experiments a building has recently been erected upon the Station Farm, and fully equipped with the most modern appliances for the care of milk and the manufacture of butter and cheese.

All these facilities for the experiment work of the Station, while primarily designed for that purpose, can not fail to be of the greatest value as object lessons in connection with the studies of this department.

The general subjects of study comprised within the scope of this department are subdivided as follows:

#### I. INTRODUCTORY BOTANY.

This study is required of all Sophomores in the General Scientific, Agricultural, Biological, Chemical, and Normal courses. Beginning in September, the subject is pursued through the entire college year, and for all students is a prerequisite for admission to subsequent courses in botany.

The work of the year comprises a general survey of the plant world, and is designed to give the student who goes no further with the subject, a comprehensive view of the entire vegetable kingdom, while for the student who will continue his botanical study, it is intended to afford a substantial basis for more exhaustive special studies.

The laboratory method is the form of instruction principally

used, and from the very beginning of his work the pupil is directed to a study of plants themselves, using the text-book as an aid to correct his mistakes and to enlarge his field of view. The student is early instructed in the use of the compound and dissecting microscopes, and with their aid he begins in the Fall term the study of the vegetable cell and its various modifications, together with types of the lower forms of plant life, proceeding from the simpler to the more complex, until at the beginning of the second half year the ferns are reached. From this time until the close of the year the student is given practice in the description and determination of species of ferns, grasses, and other flowering plants, in addition to a study of their structures.

In the course of the year class excursions are arranged to the Kentucky River and other points of botanical interest—sometimes in connection with the other departments of natural history,—for the purpose of collecting and studying the interesting flora of these various localities.

*Text-books:* Bessey's Botany in the first, and Gray's Field, Forest, and Garden Botany in the second term.

## II. HISTOLOGY, AND (III.) PLANT PHYSIOLOGY.

These two studies are designed to form a continuous course running through the Junior year, and are required of all Juniors in the Agricultural and Biological courses.

In Histology the student is given instruction and training in the methods of preparing vegetable tissues for microscopic study, and is encouraged to make a large number of permanent slides, which he can retain for his own future use.

*Text-books:* Dudley and Thomas' Manual of Plant Histology.

The study of the tissues and organs of the plant under the microscope gives the pupil a preliminary knowledge which is important for the proper understanding of the functions of these plant parts, or Plant Physiology, which immediately follows Histology. This requires two afternoons of each week in the Spring term for laboratory experiments, in which the pupil follows McDougal's Manual of Plant Physiology, and is expected in addition to do considerable collateral reading.

In both of these studies constant references are made to such standard works as Strasburger's Practical Botany; the text-books on Plant Physiology of Goodale, Sachs, and Vines; De Bary's Comparative Anatomy of the Phanerogams and Ferns; Behren's Guide to the Microscope in Botany, etc.

#### IV. CRYPTOGAMIC BOTANY.

Required of Juniors in the Biological Course. Like the preceding subject, this study is arranged primarily as a laboratory course. It embraces the study of representatives, so far as practicable, of each of the lower classes of plants.

*Works of Reference:* Bennett and Murray's Cryptogamic Botany; De Bary's Fungi, Mycetozoa, and Bacteria; Goebel's Outlines of Classification and Special Morphology; the Manuals of Bacteriology of Sternberg and others; Wolle's Algae, etc.; Lesquereux and James' Mosses; Underwood's Ferns and their Allies; Atkinson's Biology of Ferns, etc.

#### V. ECONOMIC BOTANY.

This study is required of Seniors in the Agricultural Course, and is for the first half of the term parallel in part with the preceding study, being concerned with injurious Fungi and methods of combating them. The remainder of the term is occupied with the study of the botany of cultivated plants, particular attention being given to the grasses.

#### VI. SPECIAL ADVANCED BOTANY.

Provision is here made for Seniors in the Biological Course to pursue some advanced line of study, assigned with reference to their individual tastes and requirements, and is intended to be a continuation of some special subject commenced in the earlier part of their course.

#### VII. HORTICULTURE.

Required in the Agricultural Course. The work in this subject begins in January of the Junior year and extends through two terms. The time allotted to the subject is divided between lectures, recitations, and actual practice in horticultural operations, special prominence being given to the latter feature of the course.

In the lectures are discussed the principles underlying horticultural practices; the propagation of plants; the physiological considerations upon which are based the operations of budding,

grafting, pruning, training, etc.; greenhouses, their construction, heating, and management; and vegetable, fruit, and landscape gardening. In connection with the lectures the work in the greenhouses and upon the college and experimental grounds is freely used for illustrative purposes, and occasional visits are made to the greenhouses, nurseries, market and fruit gardens, and the canning factory, all of which are well represented in or near Lexington.

In the practical part of his studies the pupil is not only taught the best methods of doing his work, but is encouraged to seek for the principles that make such methods best. He performs for himself the various operations of seed testing and seed sowing; propagation by cutting, layering, division, etc.; budding, grafting, crossing, hybridizing, and other forms of horticultural practice.

In order to make this work of the highest value to the student, he is required throughout the course to make accurate observations and careful notes upon his progress, and upon the results of all these processes.

#### VIII. GENERAL AGRICULTURE.

Required of Juniors and Seniors in the Agricultural Course.

The subject is taught by means of text-books and lectures, and illustrated by the work of the farm, garden, and greenhouse, all of which are fully equipped. The first term is devoted to soils, their origin, character, and cultivation; draining and irrigation, fertilizers, farm economy, etc. The second term is occupied with the subject of breeds of stock, the principles of breeding and feeding, and milk, as to its production, and the manufacture of the various dairy products.

For the study of stock-breeding and kindred subjects the location of the College is exceptionally favorable, being situated in the center of the far-famed Bluegrass region of Kentucky, with its numerous herds of high-bred cattle and horses. In the entire work of this course material aid is rendered the student by the important experiments of the State Experiment Station, which are at all times available for observation and study.



### THE COURSE IN AGRICULTURE.

The distinctive feature of this course is the instruction in those branches of study which bear the most direct and practical relation to agricultural pursuits. It includes as subjects of primary importance the study of general and agricultural chemistry, general zoölogy and entomology, botany, horticulture, geology, general agriculture, veterinary science, wood-work, and forging.

In addition to these subjects, the student devotes considerable time to the work of other Departments, including a year each in English and mathematics, courses in drawing, French and German, physiology, physics, and political economy.

### THE SHORT (WINTER) COURSE IN AGRICULTURE.

In this course an opportunity has recently been provided for young men, who desire to excel in their chosen occupation of farming, to secure an elementary knowledge of those scientific principles which lie at the foundation of all success in agriculture. In order that such a course of study may not interfere with the work of the busy season upon Kentucky farms, it will begin in January, immediately after the Christmas recess, and will continue for eight weeks. Its aim is to give to ambitious young farmers accurate and practical information on such important topics as manures and commercial fertilizers; agricultural chemistry; soils, and their origin; plant life on the farm; vegetable and fruit growing; diseases of plants; injurious insects; the principles of veterinary science, and the treatment of the simpler ailments of farm animals; care and feeding of live stock; the dairy cow; milk, and the manufacture of butter and cheese.

In such subjects as will permit it actual practice will be given in the manipulation of material and appliances of study, such as the care of milk; practical butter-making, spraying plants for injurious insects and diseases; and, in horticulture, the practices of seed sowing, pruning and training, grafting, etc.

This course affords to young men on farms, whose time and means are limited, an opportunity to utilize the winter months to the highest possible advantage by fitting themselves more thoroughly for their life-work.

No examinations are required for admission to this course, the only requirements being that the applicant must be of good moral character, must have had a good common school education, and be at least sixteen years of age, or preferably somewhat older, to fully profit by this course.

To residents of Kentucky instruction in this course will be free, the only expenses being the cost of a few books and other necessary incidentals, together with board and room and other personal expenses. Board and a room can be secured at prices varying from three to five dollars per week, so that the total expenses of a student during his entire eight weeks' stay need not exceed from thirty-five to fifty dollars.

Further information regarding this course may be obtained by addressing President Patterson or Professor Mathews at the College.

### III. DEPARTMENT OF ENGLISH.

PROFESSOR SHACKLEFORD.

#### FRESHMAN CLASS.

*First Term*—English Prose and Poetry; interpretations of masterpieces of English Prose and Poetry; written essays, read in class and corrected.

*Second Term*—Studies in English Literature.

Each pupil is required to commit to memory and recite in class selections from the great English poets and prose writers, including parts of Shakespeare's Julius Cæsar and the Merchant of Venice; Bacon's Essays on Studies and Friendship; Milton's L'Allegro and Il Penseroso and extracts from the Areopagitica; Bunyan's Golden City; Dryden's Alexander's Feast; Gray's Elegy; parts of Goldsmith's Deserted Village; passages from Burke's Speech on the Spirit of Liberty in the American Colonies; Burns' Cotter's Saturday Night; Wordsworth's Intimations of Immortality; Coleridge's Hymn to Mont Blanc; the closing passages of Webster's speech in reply to Hayne; Byron's Prisoner of Chillon; Shelley's Ode to the Skylark; Bryant's Thanatopsis; Emerson's Essay on Compensation; Longfellow's Keramos; Holmes' Deacon's Masterpiece; Tennyson's Ulysses; De Finibus, by Thackeray; The Vision of Sir Launfal, by Lowell.

*Text-book:* Swinton's Studies in English Literature.



## SOPHOMORE CLASS.

*First Term*—History of English Literature; class reading from Bacon, Burke, Milton, Shakespeare, and other great English writers.

*Text-books*: Pancoast's Representative English Literature and Hudson's Annotated English Classics.

*Second Term*—Advanced Rhetoric; lectures on the Elements of Criticism.

*Text-books*: Genung's Rhetoric; Minto's Manual of English Prose Literature.

## JUNIOR CLASS.

*First Term*—The Science of Logic; lectures on Pure Logic, in which Stoicheiology and Methodology are explained and illustrated; explanations and illustrations of the analytics of Aristotle and the New Analytic of Sir Wm. Hamilton; exercises in Figure, Mood, and Reduction; lectures on Fallacies and the Sources of Error; lectures on Inductive and Analogical Reasoning; lectures on Evidence.

*Text-book*: Jevons' Logic.

*Second Term*—Anglo-Saxon and Early English.

*Text-book*: Corson's Anglo-Saxon and Early English.

## IV. DEPARTMENT OF MILITARY SCIENCE.

## CAPTAIN SWIGERT.

Instruction in this department is both practical and theoretical.

The practical course embraces the U. S. Drill Regulation for Infantry, including the schools of the soldier, company, and battalion in close and extended order; ceremonies; so much of the Artillery Drill Regulations as pertains to the manual of the piece and mechanical maneuvers; signaling with flag and heliograph; guard duty and minor tactics.

Theoretical instruction embraces recitations in U. S. Drill Regulations for Infantry and Artillery; instruction in the preparation of reports and returns pertaining to a company; lectures

on the organization and administration of the United States Army, and general principles governing in the Art of War.

All students are required to take this course, and proficiency in it is as requisite for graduation as in any other Department.

Students must provide themselves with the regulation uniform of cadet gray cloth, which can be purchased for about fifteen dollars. No other outer dress, excepting an overcoat, shall be worn on any occasion. From this rule students may, however, be exempt when laboring in the field or in the shops.

## V. DEPARTMENT OF CHEMISTRY.

PROFESSOR KASTLE.

The Chemical Department dates from the establishment of the institution. For many years it was under the direction of Dr. Robert Peter, who by his labors in analytical chemistry has done more probably than any other man to develop the abundant mineral resources of the State. The Department remained in the hands of Dr. Peter until 1887, when he resigned. Dr. F. A. Von Schweinitz was then appointed to the vacancy. He held the position during the collegiate year 1887-1888, whereupon the present incumbent was appointed. For many years the chemical laboratories and lecture-room occupied the eastern part of the main College building. In September, 1889, however, the Experiment Station building having been completed, the apparatus and equipment were moved from the laboratories in the main building to more suitable and beautiful rooms on the second floor of the Experiment Station building. The lecture-room and the laboratories, qualitative and quantitative, of the Chemical Department are exceedingly well adapted to their purpose, and are among the best constructed and most handsomely furnished of the rooms in the College. The qualitative laboratory contains three very large working tables, each of which can easily accommodate ten students. The quantitative laboratory is also well equipped with tables, hoods, water, gas, electricity, etc., and has desk room for at least fourteen students in all. The lecture-room is well lighted and heated and beautifully furnished and commodious, having a seating capacity of about seventy-five.

Besides the laboratories and lecture-room, there are several other small rooms on the same floor set aside for the use of the Chemical Department:—an instructor's office, a balance-room, and a store-room.

#### APPARATUS.

The Department is well supplied with the commoner forms of chemical apparatus and chemicals. In addition to these it owns several of the more expensive pieces of apparatus, such as several exceedingly delicate balances for analytical work; a grand model Bunsen & Kirchoff spectroscope; platinum apparatus; a complete outfit for electro-plating; vapor density apparatus; a glass model ice-machine, etc. These of course will be added to from time to time as the needs of the Department demand and the resources of the institution permit; as it is now, however, the equipment is such as to readily enable the student to obtain at first hand a good working knowledge of chemical science.

#### COURSE IN CHEMISTRY.

The Chemical Course has lately been established with the view to preparing the student for life-work in the Science of Chemistry, and also with the view to fitting him for the study of medicine and kindred professions. To the accomplishment of this purpose the following course of study, extending over four years, has been adopted:

#### STUDIES REQUIRED.

The first year is devoted to the study of English, Mathematics, Algebra, Plane Geometry and Trigonometry, French, and Physiology.

The second year to Mathematics, Solid and Analytical Geometry, German, Chemistry, Botany, and Physics.

The third year to Chemistry, theoretical and laboratory practice, English, Geology, French and German, and Calculus.

The fourth year to Chemistry—advanced general reading, laboratory practice and original investigation, Economic Geology, History and Political Economy, Mental Philosophy, Logic, and Zoölogy.

## THE TRAINING IN CHEMISTRY PROPER.

The study in Chemistry proper, as outlined in the above, is sufficient in its scope to bring the student into close contact with the great fundamental truths of the Science, and to make him enthusiastic and capable in his profession.

The course in General Chemistry, extending through the second five months of the second year, consists of lectures, laboratory work, and recitations five times weekly on the non-metals and their compounds and the simpler laws of chemical change. The lectures are abundantly illustrated by suitable and instructive experiments; the laboratory work is carefully directed, and the student receives every possible encouragement to do excellent work.

In the third year the study of Chemistry is resumed with laboratory work and Theoretical Chemistry. The study of Theoretical Chemistry, consisting of lectures, recitations, and readings five times weekly during the first half year, is intended to acquaint the student with the greatest generalizations and theories of modern chemistry and their historical development. In this connection about fifty lectures are delivered annually upon the following general topics: Ten upon the Atomic Theory, its development, and the methods at present used in the determination of atomic weights; fifteen upon the Compounds of Carbon, Isomerism and Structural Formulæ; ten upon the History of Chemistry; five upon the Periodic Law; five upon the Spectroscopy, Spectrum Analysis, and the Chemistry of the Heavenly Bodies; five upon the more important current chemical investigations.

By way of supplementing the work of the lecturer, students pursuing this course will be required to do a certain, rather liberal, amount of general reading upon the matter treated of in the lectures or upon such other topics as may be assigned by the instructor. For this purpose the nucleus of a chemical library has been formed, which may be freely consulted by any or all students in the College, and the leading chemical journals of this and other countries will there be kept on file. The broadening influences of such a course can scarcely be overestimated, and students who complete it satisfactorily will find themselves, in



some measure at least, abreast of the highest and best chemical thought of our time.

The laboratory work during the first term of the third year is devoted to the study of the metals, and their more important compounds, and qualitative analysis. This work is intended to supplement the work of the first year upon the non-metals, and also to familiarize the student more fully with the commoner methods of chemical manipulation and practice. The laboratory work of the first term will be followed up during the second with laboratory work in quantitative analysis, by means of which the student learns the value of precise and accurate work, and the constancy and definite character of chemical reactions. The chemical work of the last year will consist of such special work as the student may elect to pursue, together with the preparation of a thesis embodying the results of this special work. The object of such an arrangement is to perfect him in that particular branch of the science for which he shows a liking or a particular talent. In this connection it may be well to state that facilities are offered for special work along the following lines: Pure Chemistry, Organic Chemistry, Agricultural Chemistry, general analytical work, and special analytical work on fertilizers, iron and steel and fuels.

#### CHEMISTRY REQUIRED IN OTHER COURSES.

Instruction in chemistry in other courses of study, such as the Scientific, Classical, etc., is designed to meet their special needs in this direction.

In the Classical Course the study of this science extends over five months, five times weekly, and is intended simply to introduce the student to the subject by way of general education.

In the Scientific Course the work extends over ten months. A portion of this time is devoted to the study of the metals and qualitative analysis by means of laboratory work. In the course of Mechanical Engineering the instruction is adapted as completely as possible to the needs of the students in this department. Instruction in chemistry in this course extends over a period of ten months; five of which are devoted to the study of the non-metals and their compounds; five to the chemistry of the metals with special reference to the properties which render



them useful to the mechanical engineer, and also with reference to their mode of occurrence in nature and the methods of obtaining them from the ores.

For students in Civil Engineering a course in Elementary Chemistry has been provided, extending over five months.

For the benefit of students of Agriculture a special course in Agricultural Chemistry has been arranged, the general aim of which is to acquaint the student with the chemistry of those elements which enter into the composition of plants, and which are essential to their life and growth. A study of the composition of the soil, air, and water, and their several relations to the plant as sources of plant food, forms a large and important part of this work. Also the chemistry of tillage, irrigation, and rotation of crops, and the composition and value of commercial fertilizers and manures.

The instruction in Chemistry is also adapted as fully as possible to the needs of students in Biology. Instruction in this branch extends over ten months, five times weekly. The first half of the time is devoted to the study of Elementary Chemistry; this is followed by laboratory work in the afternoon upon those elements which are regarded as essential to living things, animal and vegetable.

## VI. DEPARTMENT OF MATHEMATICS AND ASTRONOMY.

PROFESSOR WHITE.

A thorough knowledge of Arithmetic and of Algebra through quadratic equations, as presented in Wentworth's Higher Algebra, is required for admission to the Freshman class.

In September, 1899, and thereafter, a knowledge of the first three books of Beman & Smith's Geometry, or an equivalent, will also be required.

### FRESHMAN YEAR.

*First Term*—Beman & Smith's Geometry, Books I-V.

*Second Term*—Wentworth's Higher Algebra, Chapters XXII-XXIV; Wentworth's Trigonometry.

### SOPHOMORE YEAR.

*First Term*—Beman & Smith's Solid Geometry.

*Second Term*—Bowser's Analytical Geometry.

## JUNIOR YEAR.

Bowser's Differential and Integral Calculus.

Required of students in Civil and Mechanical Engineering.

## SENIOR YEAR.

Young's Elements of Astronomy.

In this class the aim is to give to the students a knowledge, as accurate and as extensive as the time will allow, of the phenomena of the heavenly bodies and of their probable condition and history. No effort will be spared to make the study of this branch of science interesting and instructive.

## VII. DEPARTMENT OF MODERN LANGUAGES.

PROFESSOR WERNICKE.

## German.

## FIRST SESSION.

*First Term*—C. Thomas' German Grammar; oral exercises.

*Second Term*—Grimm's Märchen; ballads.

## SECOND SESSION.

*First Term*—Hoffman's Historische Erzählungen; Schiller's Maria Stuart; Harris' German Composition.

*Second Term*—Schiller's Lied von der Glocke; Lessing's Nathan der Weise; an essay on a quotation from Schiller's Glocke.

## THIRD SESSION.

(*Optional*)—Dippold's Scientific German Reader; conversational exercises; Bernhard's Literaturgeschichte.

## French.

## FIRST SESSION.

*First Term*—Whitney's Grammar, Part I, to the irregular verbs; Whitney's Introductory French Reader, Part I.

*Second Term*—Le Conscriit de 1813; irregular verbs.

## SECOND SESSION.

*First Term*—Whitney's Grammar, Part II; Luquiens' Places and Peoples; some of Lafontaine's Fables committed to memory.

*Second Term*—Syntax continued; Scribe, Bertrand et Raton, Verre d'eau; Corneille's Cid; Molière's Avare; Racine's Athalie, etc.

### THIRD SESSION.

(*Optional*)—Duval, Histoire de la Littérature Française; selections from modern French literature.

### Spanish.

*First Term*—Edgren's Spanish Grammar; Eco de Madrid.

*Second Term*—Knapp's Spanish Readings.

### Italian.

*First Term*—Edgren's Grammar, Pellico's Le Mie Prigioni.

*Second Term*—Edgren's Composition; Goldoni's Comedies.

## VIII. DEPARTMENT OF GREEK AND LATIN.

PROFESSOR NEVILLE.

### Latin.

#### FIRST SESSION.

Bingham's Grammar—the study involving a daily exercise in inflection and in translation from and into Latin on the black-board; Gradatim (194 Latin stories), or Viri Romæ.

#### SECOND SESSION.

Five books of Cæsar, or twelve lives of Nepos and two books of Cæsar; six orations of Cicero; Daniell's New Latin Composition, with Bennett's Grammar; Sallust's Catiline or Cicero de Senectute.

#### THIRD SESSION.

Livy, books first and twenty-first; six books of Virgil; a play of Terence, or thirty letters of Pliny; the first forty exercises of Arnold's Latin Prose Composition.

#### FOURTH SESSION.

Horace, except a part of the Epodes and Satires; the second forty exercises of Arnold; Tacitus, Germania and Agricola; the first, third, seventh, eighth, and tenth Satires of Juvenal, or, instead of the seventh and eighth, an essay of Seneca's; Wilkins' Sketch of Latin Literature.

## Greek.

### FIRST SESSION.

White's Beginner's Greek Book, with a daily exercise in inflection and in translation from and into Greek on the blackboard.

### SECOND SESSION.

Five books of the Anabasis; six of the Iliad; exercises in Greek syntax.

### THIRD SESSION.

Keep's Selections from Herodotus; Plato's Apology and Crito; six orations of Demosthenes; dialogues of Lucian.

### FOURTH SESSION.

Two books of Thucydides; three Greek dramas (Prometheus, Medea, Ædipus Rex); Jebb's Sketch of Greek Literature.

## IX. THE ACADEMY.

This will be described after the Collegiate Departments.

## X. THE NORMAL SCHOOL.

### PROFESSOR ROARK.

Although organized as a Department of the College co-ordinate with the other departments, yet the Department of Pedagogy is more properly a school in itself, made so by the necessities of the Public School system of the State. Therefore, in addition to offering full work in Pedagogy (Educational Psychology and its applications in School Economy and Educational Methods), this Department also provides academic instruction for teachers who desire to fit themselves for higher grades of work. In administering the Department, the real needs and limitations of the average Public School teacher are kept constantly in view, and the elevation of the common schools of the State is the basic principle of the work.

The teacher must be possessed of three things in addition to an upright and sterling character and a healthy body. These three things are: (1) An adequate knowledge of what he pro-

poses to teach; (2) skill in teaching—knowledge of how to teach; (3) some broad and liberal culture wherewith to illuminate his work and increase its value. These three things it is the business of the Teacher's Training School to give.

1. *An adequate knowledge of the branches to be taught.*—The giving of this knowledge is academic work primarily. But this academic instruction should be given with the fact constantly in view that "The student will teach as he is taught, rather than as he is taught to teach." The instruction in Arithmetic, Physiology, Grammar, etc., is designed to illustrate to the teacher-pupils in the various classes the latest and best methods of teaching these subjects.

2. *Skill in teaching—the knowledge how to teach.*—This can be acquired best by successful practice, but there is a science as well as an art of teaching. Teaching must not be wholly empirical. There are fundamental principles upon which all true teaching rests, and the purpose here is to fix these principles in the minds of the pupils. It is the carrying out of these principles, their successful and practical application, that lifts the work of the teacher to the dignity of a profession. It is the direct inculcation of these principles and the practical drill in their application that distinguish the Teacher's Training School from all other schools. The Teacher's Training School should work in the faith that teaching is the highest profession, and the atmosphere of such a school should be filled with the professional spirit.

Since the principles of the science of education rest on the activities and processes of the growing mind, special attention is given to Educational Psychology. A study of this subject is followed by a thorough drill in School Management and the most rational and effective Educational Methods. The principles of management and methods are constantly presented in their relations to the principles of Psychology. Finally, the student is introduced to the history of his profession abroad and at home. The course in Pedagogy proper, then, consists of Educational Psychology, Management in Education, Method in Education, and the History of Education.

3. *Some broad and liberal culture.*—He who knows only the subjects he has to teach, and something of how to teach them, is



not yet a teacher. He must know as much more as he can ; must have some knowledge of subjects higher than the branches he will be called on to teach, and different from them. Human knowledge is so interrelated that otherwise he can not have the copiousness of illustration necessary to make the simplest and commonest facts as clear as they should be. The *relations* of facts must be taught—hence the growing need of liberal culture, a widened horizon for the teacher.

The courses offered in this department are believed to be such as will meet the requirements above set forth, and also satisfy the practical needs of the educational system of the State.

#### COURSES IN PEDAGOGY.

The *Professional Course* leading to the degree of B. Ped. (Bachelor of Pedagogy) is intended to cultivate the professional spirit, to give a general education, and to fully equip those who complete it for teaching successfully in any grade of public school, or in any academy or college.

The *State Diploma Course* is arranged to enable those teachers who have the age (24 years), and experience (2 years in this State), required by the school law, and who already hold a State certificate, or are otherwise properly qualified for taking the course, to prepare by one year's work to pass successfully the examination for State Diploma.

The *State Certificate Course* is open to those who have the legal qualifications of age (21 years), and experience (2 years), and who hold first class, or high grade second class, county certificates, or are otherwise prepared to undertake the work of this course. The aim is to fit such students to take successfully the examination for State certificate. The time required is five months, *beginning in mid-winter*.

The *County Certificate Course* is designed to prepare teachers for the county schools of the State. Preparation for properly passing the county examination may be made in one year or in five months, according to the previous preparation of the matriculate. Since by far the larger number of those who take this course enter it after the Holidays, the second term is divided into two terms of ten weeks each, and thus teachers can review all the common branches during the second half year.

It will be seen upon reference to the schedule, page 64, that *Drill Work in Forensics*, i. e., in essay writing, speaking and debating, is an important feature of the Normal School. Ability to express fluently and correctly is of the utmost value to the teacher, and can be gained only by constant practice. The Forensic Drills will occur once a week, with special exercises once or twice each term.

The *Pedagogy Drill* will occur daily during the last quarter of each year, and is intended to give valuable training in the Science of Teaching.

The *Preparatory Course* is provided for in the Academy, and fits the student to enter the full Professional Course of the Normal Department.

*Text-books:* In the Professional Course the text-books are those used in the same branches in the other four years' courses of the College. In the work in Pedagogy the books used are Roark's Psychology in Education, Brooks' Normal Methods, White's and Baldwin's School Management, and Painter's and Williams' History of Education. In the State Diploma and State Certificate courses, besides these books, Kellogg's English Literature also is used. In the County Certificate Course the books used are Ray's Arithmetics, Wentworth's Higher Algebra, Peterman's Civil Government, Chittenden's Elements of English Composition, Butler's Geography, Holbrook's Complete Grammar, Eggleston's History of the United States, Kinkead's History of Kentucky, Martin's Human Body (smaller edition), and Roberts' Rules of Order.

#### APPOINTMENTS.

Each legislative district of the State is entitled to send to the Normal School every year four properly appointed students, of either sex. Appointments are made by the County Superintendents (see page 92, Section 15, School Law of 1894,) between the first day July and the thirty-first day of December. Appointments should be certified to the President of the State College as soon as they are made. Appointees secure all the advantages indicated on page 92. They do *not* receive mileage unless they remain in school during the full collegiate year.

Appointments to the Normal School are good for *one* year. Those who are ready to enter the Freshman Class of the full four years' Professional Course should see that their appointments are made for the *College* and not for the Normal School. Appointments made for that course as a college course are good for four years.

**CALENDAR.**

The First Term opens September 8, 1898.

The Second Term opens January 23, 1899.

The First Review Term of 10 weeks opens January 23, 1899.

The Second Review Term of 10 weeks opens March 27, 1899.

Students should enter as early in the term as possible.

**XI. DEPARTMENT OF CIVIL ENGINEERING.****PROFESSOR BROOKS.**

The course in Civil Engineering is so planned as to acquaint the students with those subjects the knowledge of which is necessary to enable the civil engineer to develop himself into a skilled practitioner of his profession in any of its several branches. So far as is possible, the importance of each subject taught is illustrated by its application to some work similar to that which is met with in actual practice. An effort is made to render the course valuable not only for its professional uses but also from an educational standpoint; therefore, while the student is learning each subject both theoretically and practically, the training of his mind as well as the needs of his profession is kept in view. In addition to the purely technical matters included in the course, provision is made for the study of English, History, and Political Economy.

**EQUIPMENT.**

The Department of Civil Engineering occupies the second floor of Mechanical Hall, which contains an office, and recitation and drawing-rooms for the accommodation of classes of twenty-five students. The drawing-room is equipped with tables, boards, T-squares, drawing paper, and all the larger and more expensive drawing instruments, which are at the disposal of all students. Every one that takes this course has access to, and is required to work in, the various shops described under the head of Mechanical Engineering. The surveying instruments belonging to this Department are of the highest grades of the various makers, and among them are included four transits, one each by Buff & Berger, Heller & Brightly, Keuffel & Esser, and Ware; a level by Gurley; a compass by Gurley; a plane-table by Keuffel &

Esser, and a solar instrument by Saegmüller, together with level and stadia rods, tapes, and other minor accessories. The library for the use of students in engineering contains a well-selected supply of standard literature and periodicals pertaining especially to Civil Engineering.

The technical studies in the Course of Civil Engineering fall under the heads of Shop-Work, Drawing, Surveying, Construction, Applied Mechanics, Bridge and Machine Design, and Sanitary Engineering.

#### SHOP-WORK.

During the first term of the Freshman year, students in this course are instructed in the use of wood-working tools and in the theory and practice of pattern-making. In the first term of the Sophomore year, by practice in the forge shop and in the foundry, the student becomes familiar with the conduct of metals under the action of heat.

*Text-book:* Goss' Bench Work in Wood.

#### DRAWING.

The work in drawing is begun in the first term of the Freshman year, and consists of freehand sketching from models, engineering structures and from drawings, and in practice in the use of drafting instruments. In the Sophomore year the time is occupied in mapping, with exercises in topography, and especial attention is given to the rapid and accurate formation of Roman and other appropriate styles of letters. In the second term, four hours a week are devoted to the solution of problems in Descriptive Geometry. During the winter of the Junior year a topographic map is plotted from notes of a survey made by the class during the autumn. Such a map made by the present Junior class embraces the whole of the College campus of about fifty-two acres, and was plotted on a scale of sixty feet to an inch. A topographic map of railroad location, with cross sections and profile, is completed in the second term, and graphic analyses of framed structures are made during the year. In the Senior year the work in drawing consists of problems in stereotomy and of construction details.

*Text-books:* Woolf's Elementary Course in Descriptive Geometry; Sherman's Theory and Practice of Lettering; Siebert and Biggin's Stone Cutting.



### SURVEYING.

The course in Surveying is begun in the second term of the Sophomore year, with the study of the text-book on the theory of plane surveying, supplemented by ample practice in the solution of numerical examples. This is followed by daily field practice in the use and adjustment of surveying instruments, with exercises in leveling, determination of inaccessible distances, and in farm surveys. In the first term of the Junior year, a topographic survey of a tract of land adjacent to the College property is made, based on a system of accurate triangulation. In the second term the theory of railroad surveying is studied, especial attention being given to spirals and other modern features of railroad practice. A line of railroad is run and cross-sectioned, and an estimate made of the cost of construction. The study of Geodesy is taken up in the Senior year, embracing the theory of adjustment of a system of triangulation and the methods of determining latitude, longitude and azimuth. The State College system of triangulation has been begun and will be yearly perfected and extended by the Senior classes.

*Text-books:* Merriman and Brooks' Hand-book for Surveyors; Brooks' Street Railway Construction; Godwin's Railroad Engineer's Field Book; Merriman's Geodetic Surveying.

### CONSTRUCTION.

The methods of Construction are taught by lectures on limes, cements, wood, steel and other building material; on principles of foundations on land and under water; on masonry walls and dams; on roads, railroads, and street paving; on the theory and erection of arches; on tunnelling, and on the construction of high steel buildings. The lectures include descriptions and sketches of notable existing structures, and short excursions will be arranged for the class as often as possible. The latest methods of conducting tests of cement, iron, steel, wood, brick, and other material are practiced by each student.

### APPLIED MECHANICS.

The work in applied mechanics extends over the Junior and Senior years, and includes the theory of the strength and elasticity of beams, columns and shafts; of stresses in framed structures



and arches; of the theory of dynamos and steam engines and its application to pumping and hoisting machinery, and to locomotives.

*Text-books:* Merriman's Mechanics of Materials; Unwin's Elements of Machine Design; Merriman and Jacoby's Roofs and Bridges, Parts I and II; Holmes' Steam Engine; Houston and Konnelly's Electro-Dynamic Machinery; Barr's Pumping Machinery.

#### BRIDGE DESIGN.

The course in Roofs and Bridges is begun in the first term of the Junior year and continues through two years. The theory of computation of stresses by both analytical and graphic methods is thoroughly taught from the text-book and by numerous numerical examples. At the beginning of the Senior year the design of bridges is begun, and the method of instruction is to proceed from the simple to the complex. The outline and details of existing structures are examined, and the student becomes familiar with drafting-office methods by constant reference to working drawings.

*Text-book:* Merriman and Jacoby's Roofs and Bridges, Part III.

#### SANITARY ENGINEERING.

The work in Hydraulics includes the study of the flow of water through orifices, pipes, and large channels; the theory and tests of water motors and the measurement of power. In Sanitary Engineering the course comprises the consideration of the separate and combined systems of sewerage, the methods of sewage disposal, and the collection, purification, and distribution of a system of water supply.

*Text-books:* Merriman's Hydraulics; Staley's Separate System of Sewerage.

### XII. DEPARTMENT OF MECHANICAL AND ELECTRICAL ENGINEERING.

PROFESSOR ANDERSON, ASSISTANT PROFESSOR STURDEVANT.

#### EQUIPMENT AND FACILITIES.

This department was organized August, 1891, and is now one of the most completely equipped in the College. Mechanical Hall contains a floor area of about 20,000 square feet, is constructed of stone and pressed brick, and is well furnished with

modern conveniences for work in Mechanical and Electrical Engineering. The building contains three recitation-rooms, two drawing-rooms, three offices, a wood and pattern shop, two boiler-rooms, wash-room, tool-room, engine-room, two machine-shops, blacksmith shop, foundry, and two large rooms devoted to experimental engineering. A two-story brick building is well equipped for work in photometry and magnetic measurements. The building is isolated, so that absolute work may be carried on. A first-class technical library is at the disposal of all students in Engineering. The equipment of the different rooms is briefly described below :

The drawing-rooms contain drawing-tables, drawing-boards, curves, scales, T-squares, and other special drawing apparatus, to accommodate one hundred students.

The engine-room contains a 10-inch by 24-inch Hamilton-Corliss non-condensing engine, which supplies the motive power for all the work-shops.

The wood-shop contains twenty benches, each with a complete set of wood-working tools, thirteen wood-turning lathes, each with a complete set of turning chisels, band-sawing machine, universal wood-worker, wood-trimmer, hand mortiser, fret saw, double circular saw, and grindstone.

The foundry contains a 30-inch cupola furnace, with a capacity of a ton of metal per hour, a brass furnace, twelve complete sets of moulders' tools, twelve benches ; also, ladles, clamps, core-room, core-oven, pattern-rack, and the tools used in a practical foundry.

The blacksmith shop contains a 10-inch steel pressure blower, twelve forges, twelve anvils, three blacksmith vises, an emery grinder, and twelve complete sets of blacksmith tools, for carrying on all kinds of iron and steel forging ; a power spring-hammer, designed and built by the students, forms part of the equipment of the blacksmith shop.

The machine-shop contains six lathes, one milling machine, one self-feed drill, one hand-feed drill, one planer, one shaper, one tool-grinder, one dry emery grinder, one wet emery grinder, one universal grinding machine, two sensitive drills, and twelve iron vises and benches for vise work in metal.

The tool-room is equipped with a fine assortment of superior

tools for work in iron, steel, brass, and wood, and contains such stock and supplies as may be used in constructions in the mechanical laboratories named above.

The wash-room contains lockers for one hundred students, and is supplied with marble basins.

The boiler-houses contain, respectively, a fifty-one horse-power Babcock and Wilcox water-tube boiler, a Dean Bros.' No. 3 steam pump, and a fifty-five horse-power tubular boiler, and a Davidson No. 3 steam pump.

The Experimental Laboratory is the best equipped in the South, and besides being well supplied with steam engine indicators, planimeters, steam-gauges, pyrometers, reducing motions, scales for measuring, micrometer and vernier calipers, thermometers, calorimeters, sieves, cement samplers, scales for weighing, extensometers, water-meters, etc., it contains a thirty-five horse-power Westinghouse compound engine, a forty horse-power Houston, Stanwood & Gamble cross compound throttling engine, a twenty-five horse-power automatic cut-off engine, a ten horse-power Corliss engine, a thirty-five horse-power Buffalo automatic cut-off engine, a 10 kilo-watt Crocker-Wheeler dynamo, an  $8\frac{1}{2}$  kilo-watt Edison dynamo, a 9 kilo-watt General Electric Company multipolar dynamo, a  $3\frac{1}{2}$  kilo-watt electric motor, a  $\frac{3}{4}$  kilo-watt electric motor, a Brackett-cradle dynamometer, portable voltmeters and ammeters for continuous and alternating currents, wattmeters, photometers, galvanometers, instruments for absolute measurement of E. M. F., resistance and current, a wood 33 kilo-watt alternator, a switchboard equipped with the most modern instruments, resistance boxes, and many instruments for refined investigation.

The Laboratory also contains a number of friction brakes, a Flather hydraulic dynamometer, a 1,000-pound United States standard cement testing machine, and a 100,000-pound Riehle testing machine.

A double engine of fifty horse-power and an automatic cut-off engine (Atlas) have recently been added.

The equipment of the Laboratory is such that any problem relative to Steam and Electrical Engineering may be discussed practically.

## COURSE OF STUDY.

The training given in this course, both practical and theoretical, is intended to prepare young men for positions of responsibility and trust in mechanical engineering work. The practical work extends over a period of two years, and includes the most important principles and operations in bench-work in wood, wood-turning, pattern-making, foundry work, iron and steel forging, and hand and machine work in metal.

The theoretical work during the first two years consists of a thorough training in English, Chemistry, Mathematics, Physics, and Drawing; and during the last two years the fundamental principles of boiler, machine, dynamo, and engine design are taken up. By a careful solution of practical problems the student becomes familiar with the process carried on by the operators and designers of successful machine plants.

The course in Mechanical Engineering involves three separate lines of work:

1. *Mechanical Engineering*, the object of which is to give that training necessary to fit men to be operators and designers of steam machinery and manufacturing plants.

2. *Chemical Engineering*, intended especially to give the knowledge requisite for the successful operation of iron and steel plants and the analysis of iron, steel, coals, and refractory substances.

3. *Electrical Engineering*, in which the theory, design, building, and operation of dynamos and motors are predominant.

Particular attention is paid to the construction of power and lighting stations.

During the Freshman and Sophomore years the work for all students in the Mechanical Engineering Course is identical, but during the Junior and Senior years a student is granted the privilege of electing one of the three lines of work indicated above.

The course of study in Mechanical Engineering, extending over a period of four years, leads to the Degree B. M. E. (Bachelor of Mechanical Engineering). The advanced Degree of Mechanical Engineer may be obtained by resident students in one year after taking the degree of B. M. E. from the State College of Kentucky, or any other institution of equal require-



ments, they having successfully carried on the work laid down, passed a satisfactory examination, and presented an acceptable thesis. The advanced degree may also be taken in three years after obtaining the degree of B. M. E., provided the student has been engaged during the period of three years in practical engineering work, passes a satisfactory examination at the College, and presents an acceptable thesis.

#### FRESHMAN YEAR.

*Technical Instruction*—Twenty-six weeks, three hours per week. (a) Recitations on the forms of wood-working tools, and the cutting and peculiarities of timber. (b) Lectures on the operation of the various forms of wood-working machinery. (c) Lectures on pattern-making, moulding, and casting.

*Mechanical Drawing*—Twenty-six weeks, six hours a week, and ten weeks, ten hours a week. This drawing includes free-hand sketches, drawing from copies and models, using parts of machines in the Mechanical Laboratories as models.

*Shop-work*—Thirty-six weeks, twelve hours a week. (a) Bench-work in wood, including exercises in the following operations: Planing, sawing, rabbeting, plowing, notching, splicing, mortising, tenoning, dovetailing, framing, paneling, and the general use of carpenters' tools. (b) Wood-turning, involving the various principles of lathe-work in wood. (c) Pattern-making, which gives the student discipline in the construction of patterns for foundry work. (d) Foundry work, including the various operations of moulding, core-making, and the melting of iron and brass.

*English*—Thirty-six weeks, five hours per week.

*Algebra*—Twelve weeks, five hours per week.

*Geometry*—Seventeen weeks, five hours per week.

*Trigonometry*—Nineteen weeks, five hours per week.

#### SOPHOMORE YEAR.

*Technical Instruction*—Sixteen weeks, one hour per week. (a) Lectures on the handling of iron and steel in forging, and the methods of tempering and annealing steel. (b) Lectures on modern machine-shop practice.

*Mechanical Drawing*—Sixteen weeks, four hours per week; thirty-six weeks, five hours per week. (a) Drawing the parts



of machines and complete machines to scale. (b) Exercises in tinting and shading.

*Shop-work*—Thirty-six weeks, twelve hours per week. (a) Exercises in iron and steel forging. (b) Exercises in vise-work in metal. (c) General machine work, including screw-cutting, drilling, planing, and the milling of iron, brass, and steel.

*Descriptive Geometry*—Nineteen weeks, five hours per week.

*Physical Laboratory*—Seventeen weeks, five hours per week.

*Physics*—Seventeen weeks, five hours per week.

*Solid Geometry*—Seventeen weeks, five hours per week.

*Analytical Geometry*—Nineteen weeks, five hours per week.

*Chemistry*—Nineteen weeks, five hours per week.

*Surveying*—Nineteen weeks, three hours per week.

*Metallurgy*—Twelve weeks, six hours per week. The above includes the study of fuel and refractory substances, and the process employed in puddling iron and making steel.

#### JUNIOR YEAR.

*Kinematics*—Seventeen weeks, three hours per week. Under this head are studied the velocity ratios in various motions, construction of gears, cams, quick-return motions, straight-line motions, epicyclic trains, parallel motions, and the manner of designing trains of mechanism.

*Mechanical Drawing*—Thirty-six weeks, six hours per week. The work done during the year consists in the design of machines to do certain specific work and the making of detail drawings of machines used in actual construction in the laboratories.

*Chemical Laboratory*—Seventeen weeks, six hours per week.

*Analytical Mechanics*—Nineteen weeks, five hours per week.

*Strength of Materials*—Nineteen weeks, five hours per week.

*Heat*—Seventeen weeks, five hours per week.

*Physical Laboratory*—Seventeen weeks, six hours per week.

*Magnetism and Electricity*—Nineteen weeks, five hours per week.

*Graphic Statics*—Seventeen weeks, two hours per week.

*Calculus*—Thirty weeks, five hours per week.

*Electrodynamic Machinery*—Seventeen weeks, five hours per week.

*Power and Lighting Stations*—Thirty-six weeks, one hour per week.

## SENIOR YEAR.

*Thermodynamics*—Twenty-six weeks, six hours per week. This work consists of a study of the laws of thermodynamics, thermal capacities, and the application of thermodynamics to the steam-engine.

*Steam-Boilers*—Seventeen weeks, five hours per week. A study of the various commercial steam boilers, consumption of fuel, incrustation, determining the horse-power of boilers, boiler tests, the design of boilers for efficiency and economy, and the methods of power transmission.

*Valve Gearing*—Seventeen weeks, five hours per week. The study of various forms of standard engine valves and methods of designing.

*Hydraulics*—Seventeen weeks, two hours per week.

*Alternating Currents*—Seventeen weeks, five hours per week.

*Mechanical Drawing*—Seventeen weeks, ten hours per week. This consists in working out practical designs of boilers and steam-engine valves.

*Engine and Machine Designing*—Fifteen weeks, five hours per week. A study of the modern methods of designing engines and machines.

*Experimental Engineering*—Fifteen weeks, ten hours per week. Includes a study of the steam-engine indicator, making engine, boiler, and materials for construction tests.

*Political Economy*—Fifteen weeks, five hours per week.

*Theory and Practice of Photography*—Seventeen weeks, five hours per week.

*Continuous Current Dynamos and Motors*—Nineteen weeks, five hours per week.

*History*—Twenty weeks, five hours per week.

*Dynamometers and Measurement of Power*—Twelve weeks, five hours per week.

*Thesis Work*—Nineteen weeks, twelve hours per week.

Every student, before he attains the degree of B. M. E., must present a satisfactory thesis on some new design of a machine, or an original investigation.

The greater part of the second term of the Senior year is given to the preparation of this thesis. The subjects for theses

are assigned to students by the Dean of Mechanical and Electrical Engineering Faculty, and the completed theses are kept on file with the college records, that they may serve as a reference for future investigators.

#### ELECTRICAL ENGINEERING.

The special work in electrical engineering is closely associated with steam engineering, and machine design, but opportunity is offered for carrying on research work. The thesis of any candidate for B. M. E. may be along electrical lines.

The instruction is carried on with special reference to the needs of the practical electrical engineer. This work comprises the study of Central Station design and construction, of prime movers, the design and construction of electro-dynamic machinery, the study of the problems involved in the distribution of the electric light and the electric transmission of power, besides practice in electrical measurements, computation and testing as applied to the construction and maintenance of electric lighting, and power plants, and to the purposes of investigation.

### XIII. DEPARTMENT OF ANATOMY AND PHYSIOLOGY.

#### PROFESSOR PRYOR.

Anatomy, Physiology, and Hygiene are taught to students of the Classical, Scientific, Biological, Chemical, and Normal courses, extending throughout both terms of the Freshman year.

At the beginning of the second term a special class is organized for the benefit of Normal students. A thorough working knowledge of these branches is taught by means of lectures, demonstrations, and recitations.

This department is well provided with the apparatus necessary to illustrate the work of the student. The equipment includes papier-maché manikin, and models (Auzoux) of eye, ear, larynx, etc., skeletons, charts, microscopes, a new projecting lantern of the latest pattern, a full set of anatomical and histological lantern slides, a Thoma-Zeiss Haemacytometer, Marey's Sphygmograph, modified by Mahomed, etc.

New apparatus is purchased each year, and with the addition of a Physiological Laboratory, nothing more could be desired.

The studies of this Department, in conjunction with those in other branches of Biology and Chemistry, serve as an admirable preparation for students who intend to enter upon a professional life, and this remark applies with special force to those who are to devote themselves to the study of medicine. Special arrangements have been made with leading medical colleges whereby certificates of proficiency issued from this Department will be duly accredited by them. This, in some instances, will be equivalent to one full year's study at a medical college, and will be accepted as such. To prospective students of medicine, therefore, this department offers inducements seldom afforded in educational institutions.

*Text-books:* Huxley and Youmans' Physiology and Hygiene; Martin's Human Body; Martin's Briefer Course, and Shafer's Essentials of Histology.

For reference only: Gray's Anatomy, Kirke's Hand-book of Physiology, and Foster's Physiology.

#### XIV, XV. DEPARTMENTS OF GEOLOGY AND ZOÖLOGY.

PROFESSOR MILLER.

##### Geology.

##### EQUIPMENT AND FACILITIES.

This Department occupies one half of the second floor of the Natural History Building.

The Geological Laboratory is fitted up with tables and chairs, and contains the study collection of fossils and minerals.

The Mineralogical Laboratory is arranged in its furnishings with special reference to its use as a mineral testing laboratory.

The Geological Lecture Room, furnished with folding lecture-room seats, table, lantern stand, sliding blackboard, wall screen and means for quickly darkening the room, is admirably adapted for recitation and lecture uses.

The collections in Mineralogy and Palæontology are arranged and classified with special reference to their use in class instruction.

The Museum occupying the entire third floor of the building now contains the State Geological Survey Collection, a valuable addition to the instruction facilities of this department.



As additional equipment may be mentioned the department library of geological literature, consisting of Reports both State and National, maps, charts, models, lantern slides, and photographic illustrations.

In addition to the facilities afforded by the in-door equipment, the situation of the College itself happens to be peculiarly favorable from a geological standpoint. Located, as it is, in the center of the Blue Grass Region, at the base of the Geological Series of the State, it affords logically the best starting point for the student of Kentucky geology, who would gain a clear comprehension of how the rock foundations of his State have been laid. Both for this reason, therefore, and because geology is preëminently an out-door study, the "Excursion" is made a prominent feature of the instruction in this Department. It is by the field work these excursions afford that the student's ability to apply in-door knowledge previously acquired is put to the test, and his powers of making generalizations in the open air are exercised.

#### BRANCHES OF STUDY.

The general order of succession in the geological studies is as follows : 1. Palæontology, 2. Mineralogy, 3. Advanced Geology. Besides these, in which what follows is intimately based upon what precedes, are three self-contained studies: 4. Physiography, 5. A Shorter Course in Geology, and 6. Economic Geology.

#### I. PALAEOLOGY.

*Second Term, First Half*—Required of Juniors in the Biological, Geological, and Bachelor of Pedagogy courses. Lectures on the nature and zoölogical positions of different fossil groups are given, and the student is expected to become familiar with the fossils themselves by actual examination. Special attention is paid to fossils common in Kentucky. The collections of the department are well suited for this purpose. The instruction is entirely by lectures and laboratory work.

#### II. MINERALOGY.

*Second Term, Second Half*—This study follows Palæontology, and is required of the same students. The object of the study is to render the students familiar with the composition and



physical characters of those common minerals and rocks likely to be met with both in the course of every-day observation and in geological pursuits. The instruction involves both laboratory and text-book work. Crosby's Tables for Determination and his Common Minerals and Rocks are the books used.

### III. ADVANCED GEOLOGY.

*First Term*—Required of students in the Biological, Scientific, and Bachelor of Pedagogy courses, and open to all others who may have elected to take the Palæontology and Mineralogy, which precede. It is meant to be the culmination for those who have availed themselves of all the opportunities for the study of Geology offered in this Department. It is to be hoped that some of these students may be induced to go further, and either in their home localities or elsewhere make a beginning at doing original work. Kentucky, with its large amount of territory practically unexplored geologically, offers an especially fine field to young geologists.

*Text-book*: Scott's Introduction to the Study of Geology.

### IV. PHYSIOGRAPHY.

*First Term*—Required of students in the Classical Course. Normal students have the option between this and the Shorter Course in Geology, unless they are candidates for the degree of B. Ped., in which case they take the same Geology as matriculates in the Scientific Course.

The object of this study is to give the student a somewhat comprehensive view of the earth and its inhabitants. Facts and theories in Physics, Biology, Geology, and Astronomy are enlarged upon at greater length than is usual in studies commonly included under the name of Physical Geography. Physiography is especially adapted to those who are preparing to teach, and to those in the Classical Department who, without having the time to devote to technical details, still desire some knowledge of those broad facts and principles of science which is essential to all who would lay claim to a liberal education.

*Text-book*: Mill's Realm of Nature.

## V. SHORTER COURSE IN GEOLOGY.

This is an elective for classical students, and may also be taken by those in scientific courses for whom Palæontology and Mineralogy are not required studies.

*Text-book:* Tarr's Elementary Geology.

## VI. ECONOMIC GEOLOGY.

*Second Term, First Half*—Required of all Seniors in the Chemical and Agricultural Courses.

As the name indicates, it is the practical or inorganic rather than the organic side of Geology that is here made prominent. Historical Geology is studied briefly and in outline. Fossils are considered important in so far as they serve to determine rocks, whereas in General or Biological Geology the reverse may be considered true. Structural Geology becomes relatively important, and Mineralogy and Lithology occupy a leading place. Some of the topics of economic importance treated are: Common Rocks and Vein-forming Minerals; Origin of Ore Deposits; Mining Terms and Methods; Coal; Petroleum; Natural Gas, and Asphaltums; Building Stone, Clay, and Cement; Geological Fertilizers; Relation of Geology to Agriculture; Relation of Geology to Engineering.

*Text-book:* Tarr's Economic Geology, supplemented by lectures.

In addition to the above, a course of about five lectures on the Relation of Geology to Agriculture will be given in connection with the new Short Course in Agriculture, instituted by recent action of the Board of Trustees.

## Zoölogy.

## EQUIPMENT AND FACILITIES.

The Department of Zoölogy occupies two rooms on the first floor of the Natural History Building. These rooms are provided with tables and a special set of apparatus, including compound microscopes, for each student. Besides this there is a complete general equipment for all lines of zoölogical work, such as: a full set of zoölogical charts imported from Germany for use in the study of systematic Zoölogy; microtomes and paraffine baths for work in microscopy; a selection of Ward's skeletons to illus-

trate osteology; alcoholic specimens of both marine and inland forms to illustrate general zoölogy, with duplicates for class dissections; and finally the Department is equipped with a library of standard zoölogical literature, including the leading periodicals devoted to the interests of biological science. Moreover, opportunities for collecting zoölogical material, as well as for studying the habits of living animals, are afforded by the "Excursions" mentioned above.

#### BRANCHES OF STUDY.

These are five, enumerated as follows: 1. Systematic Zoölogy, 2. Laboratory Zoölogy, 3. Osteology, 4. Embryology, 5. Economic Entomology.

#### I. SYSTEMATIC ZOÖLOGY.

*First Term*—Required of all students in the Scientific and Bachelor of Pedagogy courses.

A general presentation of the subject is here attempted. The general principles governing Taxonomy are laid down and the different sub-kingdoms taken up and studied in detail. The practical work is limited to that which can be satisfactorily accomplished in daily exercises of one hour each. Much of it consists of demonstrations by the instructor of the chief external features of the animal as well as of such internal features as can be presented in this brief space of time. Accompanying this instruction, which is given chiefly by lectures and demonstrations, the student is expected to gain facility in the determination of species through the use of natural and artificial "keys," as, for instance: Jordan's Manual of the Vertebrates of the United States, and Miss Warner's Butterflies of Kentucky. A copy of each of these is loaned to the student as a part of the laboratory equipment. In this way, the powers of scientific observation and discrimination are trained. Finally a text-book: Arthur Thompson's Animal Life is used to present to the class in a form suitable for discussion such interesting topics of Biology as Interrelation of Plants and Animals, the Struggle for Existence, Coloration of Animals, Social Life of Animals, Protoplasm, Origin of Life, Physiological Division of Labor, Animal Psychology, Principles of Embryology, the Past History of Animals, the Doctrine of Evolution, Heredity, Animal Life and Ours.

## II. LABORATORY ZOÖLOGY.

*Second Term*—Required of the same students as have completed the Systematic Zoölogy of the first term, with the exception of the matriculates in the Chemical course. They take only the first term's work. The nature and scope of the work here is best described under the term "Animal Morphology." In the exercise of one hour and a half devoted to this subject five times a week, both the macroscopic and microscopic anatomy of animals is studied by the most approved modern methods and appliances. To each student is assigned a table with the use of a full line of apparatus and re-agents, for which no charge is made, with the exception of that for a set of dissecting instruments and for breakage. The object of this course is the acquisition by the student, first, of a thorough knowledge of the comparative anatomy of leading types; secondly, of skill in anatomical dissection and microscopical manipulation. Knowledge of this kind, obtained as it is by the direct examination of living and dead tissue, as well as by the actual hardening, staining, sectioning, and mounting of the latter for microscopical investigation, will be found especially valuable to persons who intend to study medicine.

The instruction is given chiefly by means of lectures and printed or dictated directions for the practical work.

## III. OSTEOLOGY.

*Second Term, First Half*—Required of Juniors in the Biological and Agricultural courses. Five hours a week are given to the comparative study of the Vertebrate skeleton—chiefly that of the Mammalia. For this purpose a selected collection of Ward type skeletons are used.

*Text-book*: Flower's Osteology of the Mammalia.

## IV. EMBRYOLOGY.

*Second Term, Second Half*—Required of Juniors in the Biological and Agricultural courses. Five hours a week are assigned for this study. Instruction consists of lectures upon the general facts and principles of Embryology, accompanied by practical work on the embryonic development of such vertebrates as the frog and chick.

*Text-book*: Balfour's Elements of Embryology.



## V. ECONOMIC ENTOMOLOGY.

*Second Term, First Half*—This study is laid down for Seniors in the Biological and Agricultural courses.

The Entomological work is made a separate feature because of its economic importance. It is estimated by our best entomologists and statisticians that we lose annually in this country from the depredations of injurious insects not less than \$100,000,000. If this be so, it is highly important that a knowledge of insects and their habits should be disseminated among the people, and is especially important in Kentucky, where the leading industry is agriculture. It has been urged that a reduction of a crop to the extent of one fourth or one half of its value by insects should be regarded as a tax of twenty-five or fifty per cent on its full value. Such a tax is collected year after year, often without any attempt at resistance. It is the purpose of the Entomological work at the College to place in the hands of the students who expect to make farming their occupation such means of defense against loss as are known to those who have given the matter study. The Department is especially well provided for in this direction, having the benefit of the work done at the Experimental Station, and having access to the collections, apparatus and library, accumulated for Station work. The collection now contains examples of most of the injurious insects which are found in the United States, and is constantly being enlarged. The Station is well supplied with breeding cages for use in studying the habits and life histories of insects, so that students who wish to do so have an opportunity to observe for themselves the various stages presented by a developing insect, and may see it in many cases actually engaged in its destructive work. An Insectarium recently added to our facilities gives us increased opportunity in the field of investigation.

By special arrangement the instruction in this branch is under the charge of the Entomologist of the Station, Professor Garman.



**XVI. DEPARTMENT OF PHYSICS.**

PROFESSOR PENCE.

**EQUIPMENT AND FACILITIES.**

The Department of Physics occupies two adjacent rooms on the east side, and in the basement of the Main College Building. The lecture-room is eighteen feet by forty-four feet, and will comfortably seat fifty or more students. It has the necessary lecture table, with gas, water, and drainage, and is arranged to be used at pleasure as a dark room. The laboratory is twenty-four feet by thirty feet. It is well furnished with cases for apparatus, tables, water, instruments for use in experimentation, and has twenty-four spaces at the tables for individual work, each with gas and drawers. This department is well equipped with apparatus, nearly all of which is new. The rooms are the best fitted and furnished in the building.

**COURSE OF STUDY.**

The study of Physics is begun in the last year of the Academy. One hour per day for five months is given to recitations, and to a series of experiments by the instructor, illustrating the subject-matter of the text.

*Text-book:* Gage's Introduction to Physical Science.

The work in the College proper begins in the Sophomore year, during the first term of which there are lectures, fully illustrated by experiments, with recitations one hour daily. This course embraces the subjects of Molar, Molecular, and Ether Dynamics, treating of the General Properties of Matter, Sound, Heat, Light, Electricity, and Magnetism, and is intended to give the student a general knowledge of Physical Phenomena and of Physical Laws, and to prepare him for the practical work which accompanies and follows the course.

*Text-book:* Gage's Principles of Physics.

The students in Engineering work in the physical laboratory one hour daily during this term, experimenting in the subjects of the lecture course.

During the second term of the Sophomore year students in the other courses work in the laboratory one and one-half hours daily. Gage's Laboratory Manual and Note-Book is used.

The work of the Junior year is specialized. Heat is studied one hour daily during the first term, some of the subjects being Thermometry, Expansion of Solids, Liquids, and Gases, Calorimetry, Fusion and Vaporization, Hygrometry, Radiation, Convection, Conduction, etc. A portion of the time is given to experimentation in the laboratory.

*Text-book:* Cumming's Heat.

One hour daily is given to the study of Electricity and Magnetism during the second term of this year. The principal subjects studied are Frictional Electricity, Magnetism, Current Electricity, Electrostatics, Electromagnetics, Measurements of Currents, Thermo-Electricity, Heat and Power and Light from Electric Currents, Inductance, Dynamos and Transformers, Telegraphy, Telephony, Electric Radiations and Electric Waves. Work is done in the Laboratory. The Department has a fine lot of electrical apparatus.

*Text-book:* Sylvanus P. Thompson's Electricity and Magnetism.

Much importance is attached to all work in the laboratory. Each student is furnished with the necessary apparatus, and must keep a systematic account of all his experiments, giving data and results of each. The work is both qualitative and quantitative.

## DEGREES.

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The State College confers the degrees of—

Bachelor of Science (B. S.),  
Bachelor of Arts (A. B.),  
Bachelor of Agriculture (B. Agr.),  
Bachelor of Civil Engineering (B. C. E.),  
Bachelor of Mechanical Engineering (B. M. E.),  
Bachelor of Pedagogy (B. Ped.),  
Master of Science (M. S.),  
Master of Arts (A. M.),  
Master of Agriculture (M. Agr.),  
Master of Civil Engineering (C. E.),  
Master of Mechanical Engineering (M. E.).

### CONDITIONS OF GRADUATION.

To attain the Bachelor's degree, the applicant must have been a student of the College at least one session, and he must have passed the examination on all the courses of study leading to the desired degree.

To attain the Master's degree, the applicant must have attained the Bachelor's; he must have pursued, for at least one session in this College or two sessions elsewhere, a major study selected by himself and one or two minor studies assigned him by the Faculty; and finally he must, at least thirty days before the end of the session, have satisfied the Faculty that he is duly proficient in his studies, and have presented to the College an acceptable thesis on his major study or on some part thereof.

If the applicant be an alumnus of another institution of learning, he must satisfy the Faculty that he has completed a course of study for his first degree equivalent to that prescribed in this College for the same degree; and he must matriculate and study under the direction of the Faculty at least one session.

Students that complete a part of the courses in a satisfactory manner may, in attestation of the fact, receive Certificates of proficiency.

## GROUPING OF COURSES FOR DEGREES.

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### I. COURSES FOR THE DEGREE OF B. S.,

#### WITHOUT MAJOR STUDY.

History, Political Economy, and Metaphysics, . . .	President Patterson.
Botany, . . . . .	Professor Mathews.
The English Language and Literature, . . . . .	Professor Shackleford.
Military Science, . . . . .	Captain Swigert.
Chemistry, . . . . .	Professor Kastle.
Mathematics and Astronomy, . . . . .	Professor White, Dean.
The French and German Languages, . . . . .	Professor Wernicke.
Anatomy and Physiology, . . . . .	Professor Pryor.
Geology and Zoölogy, . . . . .	Professor Miller.
Physics, . . . . .	Professor Pence.
Drawing, . . . . .	Ass't Professor Wells.

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For the Degree of M. S., either Chemistry, Biology, Geology, Mathematics, or Physics may be selected as major study; and minor studies will be assigned from Biology, Chemistry, Geology, Mathematics, Physics, English, History, Political Economy, Metaphysics, French and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (Gen. Course.)

		FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN YEAR.	English.	Plane Geom.	Drawing.	Physiology.	Drill.		
	English.	Plane Trigonom.	Algebra.	Physiology.	Drill.		
SOPHOMORE YEAR.	Solid Geom.	German.	Physics.		Drill.	Botany. (Laboratory.)	
	Analyt. Geom.	German.	Botany.	Chemistry.	Drill.	Physics. (Laboratory.)	
JUNIOR YEAR.	Zoölogy.	English.	French.	German.	Drill.	Chemistry. (Laboratory.)	
	Geology. (Palæontology and Mineralogy.)	English.	French.	German.	Drill.	Zoölogy. (Laboratory.)	
SENIOR YEAR.		History.	Mental Philosophy.		Drill.	Geology. (General.)	
		History. Polit. Economy.	Logic.	Astronomy.	Drill.		



## II. COURSES FOR THE DEGREE OF B. S.,

### MAJOR STUDY, CHEMISTRY.

History, Political Economy, and Metaphysics, . . .	President Patterson.
Botany, . . . . .	Professor Mathews.
The English Language and Literature, . . . . .	Professor Shackelford.
Military Science, . . . . .	Captain Swigert.
Chemistry, . . . . .	Professor Kastle.
Mathematics, . . . . .	Professor White, Dean.
The French and German Languages, . . . . .	Professor Wernicke.
Physiology, . . . . .	Professor Pryor.
Geology and Zoölogy, . . . . .	Professor Miller.
Physics, . . . . .	Professor Pence.

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For the Degree of M. S., either Chemistry, Biology, Geology, Mathematics, or Physics may be selected as major study; and minors will be assigned from Biology, Chemistry, Geology, Mathematics, Physics, English Literature, History, Political Economy, Mental Science, French and German.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (Maj. Chem.)

		FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	2:30 TO 4 P.M.
FRESHMAN YEAR.		English.	Geometry.	French.	Physiology.	Drill.	
		English.	Trigonometry.	Algebra.	Physiology.	Drill.	
SOPHOMORE YEAR.		Solid Geometry.	German.	Physics.		Drill.	Botany. (Laboratory.)
		Analytical Geometry.	German.	Botany.	Chemistry.	Drill.	Physics. (Laboratory.)
JUNIOR YEAR.		Zoölogy.	English.	Calculus.	German.	Drill.	Chemistry. (Laboratory.)
		Theoretical Chemistry.	English.	French.	German.	Drill.	Chemistry. (Laboratory.)
SENIOR YEAR.			History.	Mental Philosophy.	General Chemical Reading.	Drill.	Chemistry. (Laboratory.)
			Political Economy.	Logic.	Economic Geology.	Drill.	Chemistry. (Thesis.)

### III. COURSES FOR THE DEGREE OF B. S.,

#### MAJOR STUDY, BIOLOGY.

History, Political Economy, and Metaphysics, . . .	President Patterson.
Botany, . . . . .	Professor Mathews.
The English Language and Literature, . . . . .	Professor Shackleford.
Military Science, . . . . .	Captain Swigert.
Chemistry, . . . . .	Professor Kastle.
Mathematics, . . . . .	Professor White, Dean.
The French and German Languages, . . . . .	Professor Wernicke.
Entomology, . . . . .	Professor Garman.
Physiology, . . . . .	Professor Pryor.
Geology and Zoölogy, . . . . .	Professor Miller.
Physics, . . . . .	Professor Pence.
Drawing, . . . . .	Ass't Professor Wells.

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For the Degree of M. S., either Chemistry, Biology, Geology, Mathematics, or Physics may be selected as major study; and minors will be assigned from Biology, Chemistry, Geology, Mathematics, Physics, English Literature, History, Political Economy, Mental Science, French and German.

SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (Maj. Biol.)

	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN YEAR.	English.	Geometry.	Drawing.	Physiology.	Drill.	
	English.	Trigonometry.	Algebra.	Physiology.	Drill.	
SOPHOMORE YEAR.	Zoölogy.	German.	Physics.		Drill.	Botany.
		German.	Botany.	Chemistry.	Drill.	Zoölogy.
JUNIOR YEAR.	Plant Histology.	Osteology.	French.	German.	Drill.	Cryptogamic Botany.
	Geology. (Palæontology and Mineralogy.)		French.	German.	Drill.	Embryology. Plant Physiology.
SENIOR YEAR.	Entomology.	History.	Mental Philosophy.		Drill.	General Geology.
	Botany. (Special Work.)	Political Economy.	Logic.	Astronomy.	Drill.	Thesis.

IV. COURSES FOR THE DEGREE OF A. B.,

MAJOR STUDIES, GREEK AND LATIN.

History, Political Economy, and Metaphysics,	. President Patterson.
The English Language and Literature, . . . . .	Professor Shackelford.
Military Science, . . . . .	Captain Swigert.
Chemistry, . . . . .	Professor Kastle.
Mathematics and Astronomy, . . . . .	Professor White.
The French and German Languages, . . . . .	Professor Wernicke,
The Greek and Latin Languages, . . . . .	Professor Neville, Dean.
	Ass't Prof. Blanton.
Physiology, . . . . .	Professor Pryor.
Physiography, . . . . .	Professor Miller.

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For the Degree of A. M., either Greek, Latin, English, History, Mental Science, French or German may be selected as major study; and minors will be assigned from Greek, Latin, English, Mathematics, History, Mental Science, Political Economy, French and German.



## SCHEDULE OF STUDIES FOR THE DEGREE OF A. B.

	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN YEAR.	English.	Greek or German.	Physiology.	Latin.	Drill.	
	English.	Greek or German.	Algebra.	Latin.	Drill.	
SOPHOMORE YEAR.	Latin.	Plane Geometry.	Greek.	Chemistry.	Drill.	
	Latin.	Plane Trigonometry.	Greek.	Physics.	Drill.	
JUNIOR YEAR.	Solid Geometry.	English.	French.	Greek or German.	Drill.	
	Analytical Geometry.	English.	French.	Greek or German.	Drill.	
SENIOR YEAR.	French.	History.	Mental Philosophy.	Physiography.	Drill.	
	French.	Political Economy.	Logic.	Astronomy.	Drill.	

## V. COURSES FOR THE DEGREE OF B. PED.,

## MAJOR STUDY, PEDAGOGY.

History, Political Economy, and Metaphysics, . . .	President Patterson.
Botany and Horticulture, . . . . .	Professor Mathews.
The English Language and Literature, . . . . .	Professor Shackleford.
Military Science, . . . . .	Captain Swigert.
Chemistry, . . . . .	Professor Kastle.
Mathematics and Astronomy, . . . . .	Professor White.
The Greek and Latin Languages, . . . . .	Professor Neville.
Pedagogy, . . . . .	Professor Roark, Dean. Ass't Prof. White.
Anatomy and Physiology, . . . . .	Professor Pryor.
Geology and Zoölogy, . . . . .	Professor Miller.
Physics, . . . . .	Professor Pence.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. PED.

	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN YEAR.	English Literature.	Plane Geometry.	Drawing.	Physiology.	Drill.	
	English Literature.	Plane Trigonometry.	Algebra.	Physiology.	Drill.	
SOPHOMORE YEAR.	Solid Geometry.	Cicero	Physics.		Drill.	Botany. (Laboratory.)
	Analytical Geometry.	Virgil.	Botany.	Chemistry.	Drill.	Physics. (Laboratory.)
JUNIOR YEAR.	Zoölogy.		Horace.		Drill.	Chemistry. (Laboratory.)
	Geology. (Palæontology, Mineralogy.)	Advanced Latin.	Educational Psychology.		Drill.	Zoölogy. (Laboratory.)
SENIOR YEAR.		History.	Mental Philosophy.	School Economy Methods.	Drill.	Geology. (General.)
	School Economy, History of Education.	History, Political Economy	Logic, Astronomy, Moral Philosophy.	Astronomy.	Drill.	

## SCHEDULE OF STUDIES FOR THE STATE DIPLOMA.

FIRST HOUR.		SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AT OTHER HOURS.
ONE YEAR.	Latin.	Plane Geometry.	Psychology.	Physics.	Drill.	Forensics.
	English Literature.	Advanced Arithmetic.	Advanced Algebra.	Latin.	Drill.	Forensics, Pedagogy.

## SCHEDULE OF STUDIES FOR THE COUNTY CERTIFICATE.

FIVE MONTHS.	Arithmetic or Grammar.	Geography or Composition.	Civics or Orthography.	U. S. History.	Drill.	Forensics.
	Arithmetic or Composition.	Higher Arithmetic or Grammar.	Geography or Physiology.	Civics.	Drill.	Forensics.
TEN WEEKS.	Ky. History or Grammar.	Higher Arithmetic or Composition.	Geography or Physiology.	U. S. History.	Drill.	Forensics, Pedagogy.

## SCHEDULE OF STUDIES FOR THE STATE CERTIFICATE.

SECOND FIVE MONTHS.	English Literature.	Higher Arithmetic.	Psychology.	Algebra.	Drill.	Forensics, Pedagogy.
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## VI. COURSES FOR THE DEGREE OF B. C. E.,

## MAJOR STUDY, CIVIL ENGINEERING.

History and Political Economy, . . . . .	President Patterson.
The English Language and Literature, . . . . .	Professor Shackelford.
Military Science, . . . . .	Captain Swigert.
Chemistry, . . . . .	Professor Kastle.
Mathematics and Astronomy, . . . . .	Prefessor White.
Civil Engineering, . . . . .	Professor Brooks, Dean.
Mechanical Engineering, . . . . .	Professor Anderson.
Geology, . . . . .	Professor Miller.
Physics, . . . . .	Professor Pence.
Descriptive Geometry, . . . . .	Ass't Prof. Wells.
Electrical Engineering, . . . . .	Ass't Prof. Sturdevant.
Shop-Work and Drawing, . . . . .	Mr. Johnson.

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For the Degree of C. E., either Railways, Structures, Water Power, Municipal or Mining Engineering, Sanitation, Topographical, Geodetic or Architectural Engineering may be selected as major study; and minors will be assigned from Mathematics, Astronomy, Mechanical Engineering, Geology, Chemistry, Physics, Political Economy, English, French, and German.



## SCHEDULE OF STUDIES FOR THE DEGREE OF B. C. E.

FIRST HOUR.		SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.	SATURDAY.
FRESHMAN YEAR.	English.	Plane Geometry.	Free Hand Drawing.	Shop Work.	Drill.	Shop Work.	
	English.	Trigonometry.	Algebra.	Mechanical Drawing.	Drill.	Drawing.	
SOPHOMORE YEAR.	Solid Geometry.	Chemistry.	Physics.	Physical Laboratory.	Drill.	Shop Work.	Drawing.
	Analytical Geometry.	Surveying. Elementary Design.	Metallurgy.	Descriptive Geometry.	Drill.	Drawing. Field Work.	Drawing. Desc. Geom. Probl'ns
JUNIOR YEAR.	Magnetism. Electricity.	Graphic Statics. Roofs. Bridges.	Calculus.	Mechanics of Materials.	Drill.	Surveying. Chem. Lab.	Surveying.
	Roofs and Bridges.	Mech. Materials Theo. Mach. Des	Analytical Mechanics.	Electrodynam. Machinery.	Drill.	Drawing. Field Work.	Drawing. Field Work.
SENIOR YEAR.	Hydraulics. Steam Engine.	History.	Stereotomy.	Construction of Sewers. Geod. Surveying.	Drill.	Field Work. Tests of Materials.	Surveying.
	Engineering Contracts.	History. Polit. Economy.	Pumping Machinery. Water Supply.	Structural Design.		Structural Design. Thesis.	Thesis.

## VII. COURSES FOR THE DEGREE OF B. M. E.,

### MAJOR STUDY, MECHANICAL OR ELECTRICAL ENGINEERING.

History and Political Economy, . . . . .	President Patterson.
The English Language and Literature, . . . .	Professor Shackelford.
Military Science, . . . . .	Captain Swigert.
Chemistry, . . . . .	Professor Kastle.
Mathematics, . . . . .	Professor White.
Mechanical Engineering, . . . . .	Professor Anderson, Dean. Ass't Prof. Wells.
Electrical Engineering, . . . . .	Ass't Prof. Sturdevant.
Physics, . . . . .	Professor Pence.
Shopwork and Drawing, . . . . .	Instructor Johnson.
Experimental Engineering, . . . . .	Professor Anderson. Ass't De Bow.

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For the Degree of M. E., either Steam Engineering, Electrical Engineering, Chemical Engineering, Experimental Engineering, or Machine Designing may be selected as major study; and minor studies will be assigned from Steam Engineering, Electrical Engineering, Chemical Engineering, Experimental Engineering, Machine Designing, Mechanical Laboratory Work, Mathematics, Physics, Chemistry, Mental Science, Political Science, English and Modern Languages.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. M. E.

FIRST HOUR.		SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	2:45 TO 5 P. M.	SATURDAY.
FRESHMAN YEAR.	English.	Plane Geom.	Free Hand Drawing.	Wood Work Tools, Mechan. Drawing.	Drill.	Shop Wood-work, Bench and Lathe.	
	English.	Trigonometry.	Mechanical Drawing.	Pattern Making Foundry Drawing.	Drill.	Patt'n-Making Foundry.	
SOPHOMORE YEAR.	Solid Geom. Algebra.	Chemistry.	Physics.	Phys. Laboratory.	Drill.	Iron and Steel Forging.	Mechan. Drawing, Elem. Mach Design.
	Analytical Geometry.	Elem't. Design. Surveying.	Metallurgy.	Descrip. Geom.	Drill.	Vise Work. Mach. Metal Work.	Desc. Geom. Prob. Surveying.
JUNIOR YEAR.	Magnetism. Electricity.	Kinematics. Graph. Statics.	Calculus.	Strength of Materials.	Drill.	Chem. Lab. Mach. Design.	Electric Installations and Designing.
	Heat.	Mach. Design.	Analytical Mechanics.	Electrodynam-ic Machinery.	Drill.	Mach. Design. Steam Elec. Lab	Electric Installations. Lab. Work.
SENIOR YEAR.	Steam Engine, Hydraulics.	History.	Valve Gearing Steam Boilers, Transm. Power.	Contin. Currents, Dynamos Motors.	Drill.	Valve and Mach. Design.	Contin. Current Dynamo Motor Des.
	Alternating Current Circuits.	History. Polit. Economy.	Pumping Machinery.	Engine Design.	Drill.	Engine Design, Thesis Work.	Lab. Work and Installations.
POST-GRADUATE STUDIES.	Locomotive Engineering.	Thermodynamics.	Dynam. Electric Machinery.	Experimental Laboratory Work on Original Problems and Designs.		Electric Lab. Work.	
	Engineering Contracts.	Calculation of Dynam. Elec. Machinery.	Marine Steam Practice.	Thesis.	Thesis.	Designing of Dynamo-Electric Machinery.	

# VIII. COURSES FOR THE DEGREE OF B. AGR.,

## MAJOR STUDIES, BOTANY, HORTICULTURE, AND AGRICULTURE.

History, Political Economy, and Metaphysics, . .	President Patterson.
Agriculture, Horticulture, and Botany, . . . . .	Professor Mathews.
The English Language and Literature, . . . . .	Professor Shackelford.
Military Science, . . . . .	Captain Swigert.
Chemistry, . . . . .	Professor Kastle.
Mathematics and Astronomy, . . . . .	Professor White.
The French and German Languages, . . . . .	Professor Wernicke.
Entomology, . . . . .	Professor Garman.
Anatomy and Physiology, . . . . .	Professor Pryor.
Geology and Zoölogy, . . . . .	Professor Miller.
Mechanical Engineering, . . . . .	Professor Anderson.
Physics, . . . . .	Professor Pence.
Drawing, . . . . .	Ass't Prof. Wells.

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For the Degree of M. Agr., either Agricultural Chemistry, Horticulture, Entomology, Economic Botany or Veterinary Science may be selected as major study; and minors will be assigned from Agricultural Chemistry, Horticulture, Entomology, Zoölogy, Geology, Botany, and Veterinary Science.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. AGR.

	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN YEAR.	English.	Geometry.	Drawing.	Physiology.	Drill.	
	English.	Trigonometry.	Algebra.	Physiology.	Drill.	Woodwork, Forging.
SOPHOMORE YEAR.	Zoölogy.	German.	Physics.		Drill.	Botany. (Laboratory.)
		German.	Botany.	Chemistry.	Drill.	Zoölogy. (Laboratory.)
JUNIOR YEAR.	Plant Histology.	Osteology.	French.	German.	Drill.	Chemistry. (Laboratory.)
	Agricultural Chemistry.	Soils, Draining, Fertilizers.	French.	German.	Drill.	Plant Physiology, Horticulture.
SENIOR YEAR.	Entomology.	Stock Breeding, Feeding, Dairying.		Horticulture.	Drill.	Economic Botany.
		Political Economy.		Economic Geology.	Drill.	Thesis.



## THE ACADEMY.

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WALTER KENNEDY PATTERSON,  
PRINCIPAL.

JOHN LEWIS LOGAN,  
JOSEPH MORTON DAVIS,  
VICTOR EMANUEL MUNCY,  
ASSISTANTS.

## COURSES OF STUDY.

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### I. SCIENTIFIC, AGRICULTURAL, AND ENGINEERING COURSE.

*First Year* — Arithmetic, Robinson's Complete; Algebra, Wentworth's Higher, to Chapter XI.; Political and Descriptive Geography, Butler's Complete; History of the United States, Eggleston; English Grammar, Patterson's Advanced.

*Second Year* — Arithmetical Problems, Robinson; Algebra, Wentworth's Higher, to Chapter XXII.; Plane Geometry, Wentworth, Books I. and II.; Physical Geography, Tarr; General History, Anderson; Rhetoric, Williams; Synonyms, Graham.

### II. CLASSICAL AND NORMAL COURSE.

*First Year* — Latin Grammar, McCabe's Bingham; Viri Romae or Scudder's Gradatim; White's Beginner's Greek Book; Arithmetic, Robinson's Complete; Algebra, Wentworth's Higher, to Chapter XI.; English Grammar, Patterson's Advanced.

*Second Year* — Latin Grammar continued; Cæsar, Kelsey; Greek Grammar continued; Xenophon's Anabasis, Kelsey; Arithmetical Problems, Robinson; Algebra, Wentworth's Higher, to Chapter XXII.; Plane Geometry, Wentworth, Books I. and II.; Rhetoric, Williams; Synonyms, Graham.

## SCHEDULE OF STUDIES IN THE ACADEMY.

## SCIENTIFIC, AGRICULTURAL, AND ENGINEERING.

FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	SIXTH HOUR.
FIRST YEAR.	English Grammar.	Geography.	Arithmetic.	Algebra.	Drill.
	English Grammar.	History.	Arithmetic.	Algebra.	Drill.
SECOND YEAR.	Rhetoric.	Algebra.	Physical Geography.	Arithmetic.	Drill.
	Rhetoric. Synonyms.	Algebra.	History.	Geometry.	Drill.

## CLASSICAL AND NORMAL.

FIRST YEAR.	English Grammar.	Latin Grammar.	Arithmetic.	Algebra.	Drill.
	English Grammar.	Latin Grammar.	Arithmetic.	Algebra.	Drill.
SECOND YEAR.	Greek Grammar. Rhetoric.	Algebra.	Latin Reader.	Arithmetic.	Drill. Greek Reader.
	Greek Grammar. Rhetoric. Synonyms.	Algebra.	Cæsar.	Geometry.	Drill. Anabasis.

NOTE—Greek is for classical students only.

The Academy is under the immediate direction and management of a Principal and three Assistants, all of whom are experienced professional teachers.

The pupils are subject to the same rules and regulations as the students of the College. Their attendance at the College is required only during the hours of recitation and other prescribed College exercises, such as chapel, drill, etc., the preparation of their lessons being made elsewhere.

The courses of instruction in the Academy are provided for those who enter directly from the common schools, and are intended to supply the necessary training intermediate between the course of study prescribed by the State Board of Education for the common schools and the Freshman Class of the College.

Applicants for admission to the Academy, if county appointees, must be at least fourteen years of age, and must be provided with credentials of scholarship from the County Superintendent. They must also pass a satisfactory examination in spelling, reading, writing, arithmetic, history of the United States, English grammar, and geography, in order to be admitted.

Other applicants must be at least fifteen years of age, and must have completed the common school course prescribed by the State Board of Education. They must pass a satisfactory examination in spelling, reading, writing, arithmetic to percentage, English grammar through syntax, and geography, in order to be admitted. Applicants from the city should be prepared to pass an examination on all the subjects embraced in the first year's Scientific Course in the Academy. Those who enter at any other time than the beginning of the year will be required to pass a satisfactory examination on the work already gone over by the classes which they propose to enter.

Students matriculating in the Academy will be required to pursue one of its prescribed courses of study, and will not be permitted to take any work outside of this course, except on the recommendation of the Principal.

#### ENTRANCE EXAMINATION.

For the benefit of those, other than county appointees, who desire to know the character of the examination which applicants for admission will be required to pass, the following exam-

ination papers are submitted as a sample. It is not to be understood that these are the questions on which the pupils will be examined, but that they indicate the attainments necessary to enter the Academy of the College. Those who expect to enter more advanced classes will be required to pass an examination on all that the class which they propose to enter has passed over.

### I. ARITHMETIC.

Find the greatest common divisor and the least common multiple of 899 and 961.

$$\text{Simplify } 2\frac{1}{4} \times \frac{10\frac{3}{4} - 4\frac{1}{2}}{6\frac{3}{8} \times 7\frac{2}{3}} \div \frac{3\frac{5}{11}}{1\frac{2}{3} + 9\frac{1}{11}}$$

Find the number of bushels that will fill a bin 8.5 feet long, 4.5 feet wide, 3.5 feet deep.

The longitude of Rome is  $12^{\circ} 27' 14''$  east; the longitude of Chicago is  $87^{\circ} 35'$  west; find the difference in time between the two places.

What will be the cost of plastering the walls and ceiling of a room 24 feet 4 inches long, 20 feet wide, and 12 feet 6 inches high, at 27 cents per square yard, if 20 square yards be deducted for doors, windows, and base-board?

If a train at the rate of  $\frac{5}{13}$  of a mile per minute takes  $3\frac{1}{4}$  hours to reach a station, how long will it take at the rate of  $\frac{7}{15}$  of a mile per minute?

A and B can do a piece of work in  $2\frac{1}{2}$  days, A and C in  $3\frac{1}{3}$  days, B and C in  $4\frac{1}{4}$ . Required the time in which all these working together can do the work, and in which each can do the work alone.

A farmer sowed 5 bushels, 1 peck, 1 quart of seed, and harvested from it 103 bushels, 3 pecks, 5 quarts. How much did he raise from a bushel of seed?

Reduce 9 square chains, 11.25 square rods, to the decimal of an acre.

If a bar of iron  $3\frac{1}{3}$  feet long, 3 inches wide,  $2\frac{3}{4}$  inches thick weighs 93 pounds, what will be the weight of a bar  $3\frac{2}{3}$  feet long, 4 inches wide, and  $2\frac{1}{2}$  inches thick?

### II. ENGLISH GRAMMAR.

Name, define, and give examples of all the parts of speech.

Define a phrase, a clause, and give examples of each.

What are the only verbs that can be in the passive voice? Why?

Write a complex sentence containing a noun clause; one containing an adjective clause; one containing an adverbial clause.

Analyze the following sentence, and parse all the words in full:

"The soldiers of the tenth legion, wearied by their long march, and exhausted from want of food, were unable to resist the onset of the enemy."



## III. GEOGRAPHY.

What are the circles of the earth?

What are the meridians?

Define latitude and longitude.

What two meridians bound the hemispheres?

Define the two principal forms of government.

Bound North America and describe its political divisions.

Why is the climate of Western Europe different from that of America in the same latitudes?

Describe the mountains, principal rivers, and lakes of Asia.

Describe the natural routes of commerce.

## IV. HISTORY.

What section of the United States was first explored by the Spanish? the French? the English?

Give a concise description of the settlement of Plymouth, Jamestown, New York City, and their distinctive characteristic.

Define Charter, Proprietary, and Royal government as applied to the colonies, and name the colonies that were under each of these forms of government.

Name the three principal causes of the Revolutionary War.

What was the main cause of the War of 1812?

What caused the Mexican War?

Give the leading political differences between the North and the South at the opening of the Civil War.

Name the three departments of the Government under the Constitution, and define the duties of each.

## ASSOCIATIONS.

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### THE UNION LITERARY SOCIETY.

This, the oldest of the four literary associations connected with the State College, was formed in 1872 by the consolidation of the Yost Club and the Ashland Institute, and operates under a charter from the Legislature. It occupies a commodious and well-furnished hall in the main building, and is supplied with a library due in part to an appropriation from the State. Besides the weekly meetings devoted to declamations, essays, and debates, the Society holds on the 22d of February an annual contest in oratory, and awards to the successful competitor a gold medal provided by the alumni.

### THE PATTERSON LITERARY SOCIETY.

This Society, formed in 1887, and named at the suggestion of Gov. Knott in honor of the President of the College, was chartered in 1888. It is provided with a handsome room and a good library. The annual oratorical contest is held on the 26th of March, the birthday of the President, who presents the first prize, a gold medal. The second, also a gold medal, is the gift of Mr. George W. Crum, of Louisville.

### THE PHILOSOPHIAN SOCIETY.

The Philosopher Society, formed by the young women of the College in 1882 for literary improvement and social pleasure, offers, besides the usual weekly meetings, a public entertainment consisting of declamations, essays, criticisms, and orations.

### THE ENGINEERING SOCIETY.

This body, composed of matriculates in either course of engineering, meets on the third Friday of each month. The exercises consist of a paper read by a member on some pertinent topic, followed by a general discussion. During the year the Society is occasionally favored with lectures by experienced engineers not connected with the College.

## THE BIOLOGICAL SOCIETY.

This was the first scientific Society organized in the institution. For a time it was composed chiefly of members of the Faculty and of the staff of the Experiment Station. Recently it has been reorganized and placed under the management of students, still retaining, however, the larger part of the original members.

The objects of the Society are the cultivation of an interest in Natural History and the stimulation of a spirit of original research. The exercises at the monthly meetings consist of essays and discussions.

## THE LINGUISTIC SOCIETY.

This Society, which was organized by students during the present session, meets twice a month for improvement in languages. At each meeting a paper is read on some topic connected with the classics or with one of the leading modern languages or its literature.

## ATHLETICS.

Opportunity for physical exercise and legitimate outdoor sport is afforded by the spacious Athletic Field and Parade Ground. The management of athletics by the students is vested in an Athletic Association formed by the union of the Foot-ball, the Base-ball, and Track-athletic Societies. The officers of these three sub-organizations constitute the managing Board of the Athletic Association. The control of athletics by the faculty is secured through their Committee on Athletics, acting under a set of regulations adopted by the Faculty and approved by the Trustees.

## ALUMNI.

1869.

MUNSON, WILLIAM BENJAMIN, B. S. .... Denison, Texas.

1870.

MUNSON, THOMAS VOLNEY, B. S. .... Denison, Texas.

1871.

HARDING, ENOCH, B. S. .... Ft. Worth, Texas.

1874.

CARSWELL, ROBERT EMMETT, B. S. .... Decatur, Texas.

DEAN, JOHN ALLEN, B. S. .... Owensboro.

HARDIN, THOMAS ROLLINS, B. S. .... Fort Jesup, La.

SMITH, EDWARD EVERETT, B. S. .... Atlanta, Ga.

1875.

BROWN, EDGAR THOMAS, B. S. .... Wichita, Kansas.

1877.

FLOETE, FRANKLIN, B. S. .... Spencer, Iowa.

WARD, BALLARD PRESTON, B. S. .... Speedwell, Va.

1878.

COLE, MOSES SALVADOR, B. S. .... Rivas, Nicaragua.

\*MACKIE, MAHLON, B. S. ....

1879.

BLAKELY, CHARLES GRAHAM, B. S. .... Topeka, Kansas.

HAYS, NAPOLEON BONAPARTE, B. S. .... Pineville.

PERRY, CALEB SYKES, B. S. .... Winfield, Kansas.

WRIGHT, HENRY MOSES, B. S. .... Rome, Ga.

1880.

CRAWFORD, JAMES, B. S. .... Lexie, Tennessee.

PETER, ALFRED MEREDITH, B. S. .... Lexington.

WELLER, NICHOLAS JOHN, B. S. .... Pineville.

WHATLEY, GEORGE CROGHAN, B. S. .... Birmingham, Ala.

1881.

PENCE, MERRY LEWIS, B. S. .... Lexington.

1882.

BERRY, GEORGE G., B. S. .... Lexington.

DE ROODE, LOUIS KUINDERS, A. B. .... Louisville.

PATTERSON, JOHN LETCHER, A. B. .... Louisville.

RODGERS, EDWARD LEE, A. B. .... Cincinnati, Ohio.

SHACKLEFORD, JOHN ARMSTRONG, A. B. .... Tacoma, Wash.

STOLL, JOHN WILLIAM, A. B. .... Lexington.

\*Deceased.

## 1883.

\*KING, WILLIAM ELIJAH, B. S. ....  
TAYLOR, JAMES W., A. B. .... St. Louis, Mo.

## 1884.

EUBANKS, BURTON PENDERGAST, B. S. .... Ft. Worth, Texas.  
GRAVES, CLARENCE SCOTT, B. S. .... Lexington.  
\*JONES, HENRY CLAY, B. S. .... Lexington.  
KASTLE, JOSEPH HOEING, B. S. .... Lexington.  
RAMSEY, RUSSELL THOMAS, B. S. .... London.  
RILEY, OTIS VIOLETTE, B. S. .... Pineville.

## 1885.

DE ROODE, RUDOLPH JOHN JULIUS, B. S. .... New York, N. Y.  
GESS, GEORGE THOMAS, B. S. .... Lexington.  
GORDON, J. CRITTENDEN, B. S. .... Pleasureville.  
LAMBUTH, WILLIAM DAVID, A. B. .... Seattle, Washington.  
SCOTT, JAMES RUSSELL, B. S. .... Lexington.  
THORNBURY, WILLIAM GARLAND, B. S. .... New York, N. Y.

## 1886.

MORGAN, THOMAS HUNT, B. S. .... Bryn Mawr, Pa.  
PREWITT, ROBERT LEE, A. B. .... Walnut Hill.  
PREWITT, WILLIAM C., A. B. .... Ft. Worth, Texas.

## 1887.

HIFNER, KEARNEY LEE, B. S. .... South Elkhorn.  
SHACKLEFORD, THOMAS WHEATLEY, A. B. .... Superior, Wis.

## 1888.

BARTLETT, FREDERICK VINCENT, B. S. .... Lexington.  
BRYAN, GEORGE GIST, B. S. .... Lexington.  
CURTIS, HENRY ERNEST, B. S. .... Lexington.  
GUNN, BELLE CLEMENT, B. S. .... Springfield, Ohio.  
PAYNE, ROBERT TREAT, B. S. .... Athens.

## 1889.

ELLERSHAW, EDWARD, A. B. .... Digby, Nova Scotia.  
FRAZER, HUGH MILLER, B. S. .... Lexington.  
\*PATTERSON, WILLIAM ANDREW, B. S. .... Lexington.  
PREWITT, ANNIE GIST, B. S. .... Walnut Hill.  
WALKER, ROBERT BERNIE, B. S. .... Lexington.

## 1890.

ANDERSON, RICHARD THOMAS, JR., B. S. .... Lexington.  
BAKER, ANNIE JANE, B. S. .... Lexington.  
BROCK, CHARLES ROBERT, B. S. .... London.  
FORSTON, KEENE RICHARDS, B. S. .... Indianapolis.  
GUNN, JOHN WESLEY, C. E. .... Lexington.  
HOEING, CHARLES, A. B. .... Lexington.  
WILSON, MARGARET AGNES, B. S. .... Chicago, Ill.  
YATES, JAMES ANDERSON, B. S. .... Williamsburg.

\* Deceased.



## 1891.

BERRY, HENRY SKILLMAN, B. S. ....	Lexington.
CLARDY, U. L., B. S. ....	Newstead.
MUNCY, VICTOR EMANUEL, B. S. ....	Lexington.
WALLIS, WILLIAM RUSSELL, C. E. ....	Lexington.
WARNER, B. CALLIE, B. S. ....	Lexington.

## 1892.

COX, ARTHUR MELVILLE, A. B. ....	Cynthiana.
ELKIN, FIELDING CLAY, B. S. ....	Lexington.
HUNT, IRENE LEONORA, B. S. ....	Lexington.
MAXEY, JOHN GEE, A. B. ....	Tompkinsville.
PAGE, WILLIAM SEABURY, C. E. ....	McMillan, Wash.
POTTINGER, SAMUEL LANCASTER, A. B. ....	Louisville.
*REYNOLDS, FRANK CRAIG, C. E. ....	
SCOVELL, FRANK ELMER, C. E. ....	Rosehill, Ill.
SHAW, HIRAM, JR., B. S. ....	Lexington.
SHELBY, ISAAC PRATHER, C. E. ....	Lexington.
SOUTHGATE, BUTLER TURPIN, A. B. ....	Lexington.

## 1893.

ADAMS, KATHERINE INNES, A. B. ....	Lexington.
BRYAN, JOHN IRWIN, B. S. ; B. M. E., '95 ....	San Francisco, Cal.
COURTNEY, EDMUND, B. Ped. ....	Louisville.
GUNN, HENRY MARTIN, B. S. ....	Lexington.
HOBODY, WILLIAM COTT, B. S. ....	New York, N. Y.
JOHNSON, JAMES RICHARD, B. M. E. ....	Lexington.
McFARLIN, JOHN WILLIAM, B. S. ....	Winchester.
RAILEY, MORTON SANDERS, C. E. ....	Washington, D. C.
ROBERTS, DANIEL STILLWELL, B. Ped. ....	Ekron.
SMITH, DENNY PERRYMAN, B. S. ....	Cadiz.
SPEYER, ROSA, B. S. ....	Lexington.
WARE, CORA E., B. Ped. ....	Pineville, La.
WHITE, MILFORD, C. E. ....	Ottawa, Kan.
WILLIS, BENJAMIN GRANT, B. S. ....	Lexington.

## 1894.

AULICK, EDWIN CHESTERFIELD, A. B. ....	Frankfort.
BRADSHAW, GEORGE DICKIE, B. Ped. ....	Winchester.
BRAND, EDWARD, A. B. ....	Cynthiana.
CURTIS, CARLTON COLEMAN, B. S. ....	Lexington.
FAIG, JOHN THEODORE, B. M. E. ....	Ann Arbor, Mich.
GARRED, ULYSSES ANDERSON, B. M. E. ....	Chicago, Ill.
GRIFFING, EMMA ROSETTA, B. S. ....	Lexington.
HAYS, JAMES MORRISON, A. B. ....	Barbourville.
HUGHES, LEONARD SAMUEL, B. S. ....	Frankfort.
JONES, MATTISON BOYD, A. B. ....	Williamsburg.
KEISER, BENJAMIN CHRISTOPHER, B. S. ....	Chicago, Ill.
KROESING, LILLIE, B. S. ....	Lexington.

\*Deceased.

NEWTON, NATHAN ALEXANDER, B. M. E. .... Lexington.  
 NORMAN, ALBERT CLIFT, B. M. E. .... Savannah, Ga.  
 OOTS, NINA PEARL, B. S. .... Lexington.  
 SHELBY, KATHERINE, B. S. .... Lexington.  
 SLEDD, DORA, B. Ped. .... Lexington.  
 TRIGG, WILLIAM CLAY, C. E. .... Pushmataha, Miss.  
 WARNER, HATTIE HOCKER, B. S. .... LaFollette, Tenn.

## 1895.

ATKINS, MARY LYONS, B. S. .... Lexington.  
 BUSH, HENRY SKILLMAN, B. S. .... Lexington.  
 DIDLAKE, MARY LEGRAND, B. S. .... Lexington.  
 DOWNING, JOSEPH MILTON, B. M. E. .... Lexington.  
 FAULKNER, JOHN VICK, C. E. .... Hampton.  
 FITZHUGH, LUCY STUART, A. B. .... Lexington.  
 FOSTER, NETTIE BELLE, B. S. .... Lexington.  
 KING, ELIZABETH WHITTINGTON, A. B. .... Lexington.  
 LEWIS, THOMAS STONE, A. B. .... Louisville.  
 MCCONATHY, JAMES ASA, B. S. .... Kirklevington.  
 MCCAUGHLIFFE, MARY CATHERINE, B. S. .... Lexington.  
 MURRILL, PAUL INGOLD, B. S. .... Ann Arbor, Mich.  
 NEWMAN, ROBERTA, B. S. .... Muir.  
 REYNOLDS, NELLIE ANNA, B. S. .... Lexington.  
 STOLL, RICHARD CHARLES, A. B. .... Lexington.  
 WEAVER, RUFUS LEE, B. S. .... Ann Arbor, Mich.  
 WILMOTT, JOHN WEBB, A. B. .... Lexington.  
 WOODS, JOHN JOSEPH, A. B. .... Cynthiaana.

## 1896.

ALFORD, SMITH EDISON, A. B. .... Lexington.  
 CARNAHAN, JAMES WILLIAM, A. B. .... Manchester.  
 CASE, DANIEL MORRIS, B. M. E. .... Lexington.  
 DAVIDSON, HARRY ADOLPH, C. E. .... Louisville.  
 DEAN, THOMAS ROLAND, A. B. .... Little Hickman.  
 DUCK, ALICE, B. S. .... Lexington.  
 DUNLAP, JOHN JENNINGS, A. B. .... Independence.  
 KERRICK, FELIX, A. B. .... Hardinsburg.  
 LYLE, JOEL IRVIN, B. M. E. .... Ludlow.  
 McDOWELL, EDWARD CAMPBELL, B. M. E. .... Cynthiaana.  
 ORMAN, HENRY, B. M. E. .... Danville.  
 TRIGG, JOHN HENRY, B. S. .... New Columbus.  
 WOODS, JOHN WESLEY, A. B. .... Webbville.

## 1897.

ALLEN, WILLIAM RAYMOND, A. B. .... Lexington.  
 ANDERSON, HENRY CLAY, B. M. E. .... Seven Guns.  
 \*ATKINS, ANTOINETTE THORNTON, B. S. .... Lexington.  
 BLESSING, GEORGE FREDERICK, B. M. E. .... Carrollton.  
 BULLOCK, SAMUEL ARCHIBALD, B. M. E. .... Lexington.

\*Deceased.

CASSIDY, ELIZABETH, B. S. ....	Lexington.
CLARKE, MARY EVA, B. S. ....	Lexington.
COLLIER, WILLIAM HENRY, B. M. E. ....	Hooktown.
DEBOW, SAMUEL CARRUTHERS, B. M. E. ....	Hickman.
DOWNING, GEORGE CRUTCHER, B. Ped. ....	Frankfort.
DUCK, BERKLEY WILSON, B. M. E. ....	Lexington.
DUNCAN, WILLIAM ADOLPHUS, B. M. E. ....	Franklin.
FRAZER, JOSEPH CHRISTIE, B. S. ....	Fayette County.
GEARY, JOHN THOMAS, B. S. ....	Lexington.
GORDON, ROBERT LEE, A. B. ....	Fayette County.
GUNN, CLARA BROOKE, B. S. ....	Lexington.
*HALEY, JOHN THOMAS, B. S. ....	Fayette County.
HENDREN, JAMES HARRY, B. S. ....	Speedwell.
HICKS, ARTHUR LEE, A. B. ....	Danleyton.
KELLY, THOMAS CONWAY, B. M. E. ....	Georgetown.
McHARGUE, BARBARA SUSAN, B. S. ....	Boreing.
MORGAN, GEORGE MATT, B. S. ....	Pineville.
POPE, ROBERT LEE, A. B. ....	Barbourville.
SCOTT, JOHN, A. B. ....	Lexington.
SEARCY, LULU, B. Ped. ....	Lexington.
SIMRALL, JAMES ORLANDO HARRISON, A. B. ....	Lexington.
WARNER, LOGAN HOCKER, B. S. ....	LaFollette, Tenn.
WHITE, MARTHA RIPPERDAN, B. S. ....	Lexington.

\* Deceased.

## MILITARY DEPARTMENT.

## ROSTER.

S. M. SWIGERT, CAPTAIN SECOND CAVALRY, U. S. ARMY,  
*Commandant.*

## CADET BATTALION.

## STAFF.

T. S. HAMILTON, FIRST LIEUT. AND ADJT.	P. S. WARD, LIEUT. SIGNAL DEPT.
G. G. BROCK, FIRST LIEUT. AND QR. MAST.	W. T. CARPENTER, SERGT. MAJ.
J. W. HUGHES, CHIEF TRUMPETER.	F. D. BULLOCK, ORDNANCE OFFICER.
T. L. CAMPBELL, LIEUT. AND COMMISSARY.	J. R. SAMS, QR. MAST. SERGT.

## INFANTRY.

A COMPANY.	B COMPANY.	C COMPANY.	D COMPANY.
CAPTAIN.	CAPTAIN.	CAPTAIN.	CAPTAIN.
R. E. WARREN.	W. J. CAHILL.	L. B. BROCK.	W. H. SCHERFFIUS.
FIRST LIEUT.	FIRST LIEUT.	FIRST LIEUT.	FIRST LIEUT.
T. W. SCHOLTZ.	E. C. LOEVENHART.	R. L. SEVERS.	W. L. BRONAUGH.
SECOND LIEUT.	SECOND LIEUT.	SECOND LIEUT.	SECOND LIEUT.
M. E. JOHNSTON.	F. P. FARLEY.	J. M. GRAVES.	S. A. GLASS.
SERGEANTS.	SERGEANTS.	SERGEANTS.	SERGEANTS.
W. J. GRINSTEAD.	C. C. JETT.	R. K. MADDOCKS.	C. REISCH.
B. W. YOUNG.	J. MORROW.	A. S. KIDD.	G. ROBERTS.
H. A. HOEING.	L. B. ALLEN.	J. WILLIM.	J. A. VAN ORSDELL.
T. E. WARNOCK.	P. P. JOHNSTON.	J. F. WILLIM.	W. L. BROCK.
J. H. COMBS.	C. W. BRADLEY.	C. Y. CORNETT.	R. M. ALLEN.
R. B. HAMILTON.	J. H. BULLOCK.	H. T. TROSPER.	D. W. HAMMOCK.
CORPORALS.	CORPORALS.	CORPORALS.	CORPORALS.
J. E. DAVIDSON.	J. F. MUSSELMAN.	W. H. SASSER.	L. A. DARLING.
W. S. WEBB.	L. HUNDLEY.	S. A. MARKS.	J. T. GUNN.
L. K. FRANKEL.	P. WEST.	L. RAGAN.	J. S. CALDWELL.
T. A. NICHOLS.	W. H. MATTINGLY.	C. REED.	G. W. EWELL.
A. E. SMITH.			C. H. CHAMBERS.

## ARTILLERY.

CAPTAIN.	SECOND SERGEANT.
J. S. JOHNSON.	E. T. LYLE.
FIRST LIEUT.	FIRST CORPORAL.
C. L. STRAUSS.	H. E. HAMILTON.
FIRST SERGEANT.	SECOND CORPORAL.
A. J. VANCE.	T. L. RICHMOND.

## POST-GRADUATES.

Downing, George Crutcher, . . . .	Fellow in Geology and Biology.
Beatty, Wallace Appleton, . . . .	Chemical, . . . . Lexington.
Brown, Ernest Frank, A. B., . . . .	Engl. Ger., . . . Lexington.
Clark, Mary Eva, B. S., . . . .	Scientific, . . . Lexington.
Duncan, William Adolphus, . . . .	Mech. Eng., . . . Franklin.
Frazer, Joseph Christie, . . . .	Scientific, . . . Lexington.
Gordon, Robert Lee, A. B., . . . .	Classical, . . . Lexington.
Harper, Joseph Nelson, . . . .	Agricult., . . . Lexington.
Roland, Henry, . . . .	Chemical, . . . Lexington.

## UNDERGRADUATES.

## SENIORS.

Brock, George Green, . . . .	Classical, . . . Bush.
Brock, LaFayette Breckinridge, . .	Scientific, . . . Lexington.
Cahill, William James David, . . .	Mech. Eng., . . . Lexington.
Campbell, Thomas Luther, . . . .	Classical, . . . Clinton.
Carpenter, William Thomas, . . . .	Mech. Eng., . . . Lexington.
Davis, Horace Newton, . . . .	Civ. Eng., . . . Lexington.
Farley, Frank Preston, . . . .	Classical, . . . Flatlick.
Hammock, David William, . . . .	Scientific, . . . Cane Creek.
Hamilton, Robert Browning, . . . .	Agricultural, . . Lexington.
Hamilton, Thomas Smith, . . . .	Mech. Eng., . . . Lexington.
Johnson, Jack Stublefield, . . . .	Classical, . . . Muir.
King, Margaret Isadore, . . . .	Classical, . . . Lexington.
Loevenhart, Arthur Solomon, . . . .	Scientific, . . . Lexington.
Loevenhart, Edgar Charles, . . . .	Mech. Eng., . . . Lexington.
Lucas, Ida West, . . . .	Classical, . . . Lexington.
Smith, Sidney Allen, . . . .	Classical, . . . Lexington.
Straus, Charles Louis, . . . .	Mech. Eng., . . . Lexington.
Terry, Lila Beatrice, . . . .	Classical, . . . Paris.
Trosper, Henderson Taylor, . . . .	Classical, . . . London.
Ward, Paul Sterling, . . . .	Mech. Eng., . . . Cynthia.
Wilson, Henry Clay, . . . .	Classical, . . . Mt. Olivet.

## JUNIORS.

Allen, Leonard Barnes, . . . .	Civ. Eng., . . . Lexington.
Bourne, Julian Byron, . . . .	Civ. Eng., . . . Stanford.
Brock, Walter Lucas, . . . .	Classical, . . . London.
Bronaugh, William Logan, . . . .	Mech. Eng., . . . Lexington.
Bullock, Frederick Dabney, . . . .	Mech. Eng., . . . Lexington.



Bullock, Joseph Hunt, . . . . .	Scientific, . . . . .	Lexington.
Copland, Alexander Chisholm, . . . . .	Civ. Eng., . . . . .	Lexington.
Cox, Jennie Bramblett, . . . . .	Classical, . . . . .	Mt. Sterling.
Davidson, Joseph Ernest, . . . . .	Civ. Eng., . . . . .	Louisville.
Davis, Walter Hendricks, . . . . .	Scientific, . . . . .	Jacksonville.
Davis, William Tilden, . . . . .	Scientific, . . . . .	Jacksonville.
Graves, Leila May, . . . . .	Scientific, . . . . .	Lexington.
Grinstead, Wren Jones, . . . . .	Classical, . . . . .	Salem, Neb.
Gunn, John Tevis, . . . . .	Classical, . . . . .	Lexington.
Gunn, Lucien Brook, . . . . .	Mech. Eng., . . . . .	Lexington.
Hamilton, Hiram Edward, . . . . .	Agricultural, . . . . .	Edmonton.
Hiatt, Walter Saunders, . . . . .	Scientific, . . . . .	Lexington.
Horton, Minnie Leigh, . . . . .	Classical, . . . . .	Camargo.
Hughes, James William, . . . . .	Mech. Eng., . . . . .	Corydon.
Jett, Carter Coleman, . . . . .	Mech. Eng., . . . . .	Jett.
Johnson, John Bockover, . . . . .	Mech. Eng., . . . . .	Lexington.
Johnston, Marius Early, . . . . .	Scientific, . . . . .	Lexington.
Johnston, Philip Preston, . . . . .	Mech. Eng., . . . . .	Lexington.
Maddocks, Roydon Keith, . . . . .	Civ. Eng., . . . . .	Carrollton.
Musselman, Joseph Franklin, . . . . .	Mech. Eng., . . . . .	Lexington.
Newman, Herbert, . . . . .	Scientific, . . . . .	Gamaliel.
Scherffius, William Henry, . . . . .	Scientific, . . . . .	Lynnville.
Scholtz, Theodore Walker, . . . . .	Mech. Eng., . . . . .	Louisville.
Vance, John Arthur, . . . . .	Mech. Eng., . . . . .	Springfield.
Walsh, Robert Christie, . . . . .	Classical, . . . . .	Lexington.
Warren, Richard Evans, . . . . .	Classical, . . . . .	Donerail.
Willmott, Jennie Walker, . . . . .	Scientific, . . . . .	Lexington.
Young, Bradley Woodruff, . . . . .	Scientific, . . . . .	Cincinnati, Ohio.

#### SOPHOMORES.

Allen, Robert Milton, . . . . .	Classical, . . . . .	Faywood.
Averitt, Saxe Dabney, . . . . .	Scientific, . . . . .	Caledonia.
Baker, Edwin Harvey, . . . . .	Classical, . . . . .	Limaburgh.
Blessing, Charles, . . . . .	Mech. Eng., . . . . .	Carrollton.
Bowden, Mary Willa, . . . . .	Classical, . . . . .	Paris.
Bradley, Charles Walter, . . . . .	Mech. Eng., . . . . .	Lexington.
Brock, David Morrice, . . . . .	Civ. Eng., . . . . .	Forks of Elkhorn.
Butler, Francis Victor, . . . . .	Classical, . . . . .	Paris.
Cornett, Charles George, . . . . .	Normal, . . . . .	Bush.
Davis, Edgar, . . . . .	Mech. Eng., . . . . .	Hampton.
Darling, Lewis Andrew, . . . . .	Mech. Eng., . . . . .	Carrollton.
Daugherty, Frank, . . . . .	Mech. Eng., . . . . .	Paris.
Downey, Lucy Metcalf, . . . . .	Scientific, . . . . .	Paris.
Ewell, George Watkins, . . . . .	Classical, . . . . .	London.
Frankel, Leon Kaufman, . . . . .	Mech. Eng., . . . . .	Louisville.

Gideon, Daniel Edward, . . . . .	Mech. Eng., . . .	Louisville.
Gillis, George S., . . . . .	Mech. Eng., . . .	Williamsburg.
Glass, Seth Ammon, . . . . .	Scientific, . . .	Georgetown.
Goodloe, John Duncan, . . . . .	Mech. Eng., . . .	Whites Station.
Graves, James Madison, . . . . .	Mech. Eng., . . .	Lexington.
Hestand, John Emerson, . . . . .	Scientific, . . .	Edmonton.
Hoeing, Howard Aubrey, . . . . .	Mech. Eng., . . .	Lexington.
Hundley, Leslie, . . . . .	Scientific, . . .	Rome.
Johnston, John Pelham, . . . . .	Mech. Eng., . . .	Lexington.
Kehoe, John Hickey, . . . . .	Mech. Eng., . . .	Cynthiana.
Kidd, Asa Steele, . . . . .	Civ. Eng., . . .	Cincinnati, Ohio.
Kneisel, Chester Arthur, . . . . .	Mech. Eng., . . .	Louisville.
Lester, Arthur Vance, . . . . .	Civ. Eng., . . .	Williamsburg.
Lyle, Ernest Thornton, . . . . .	Mech. Eng., . . .	Lexington.
McDowell, Sebastian Haupt, . . . . .	Mech. Eng., . . .	Cynthiana.
Marks, Samuel Blackburn, . . . . .	Scientific, . . .	Versailles.
Morrow, Joseph, . . . . .	Normal, . . .	Rankin.
Millar, Carrie Virginia, . . . . .	Scientific, . . .	Lexington.
Naive, Edna Earl, . . . . .	Scientific, . . .	Lexington.
Neal, Mary Eliza, . . . . .	Classical, . . .	Paris.
Nicols, T. A., . . . . .	Mech. Eng., . . .	Lexington.
Payne, William Johnson, . . . . .	Mech. Eng., . . .	Georgetown.
Pennington, William Lee, . . . . .	Normal, . . .	Sandy Hook.
Peyton, Nellie Evans, . . . . .	Scientific, . . .	Lexington.
Raymond, Blake Lawrence, . . . . .	Mech. Eng., . . .	Ludlow.
Reese, Asbury Stamper, . . . . .	Mech. Eng., . . .	Trenton.
Reed, Cecil, . . . . .	Classical, . . .	Benton.
Reisch, Charles, . . . . .	Classical, . . .	Louisville.
Rieser, Eugene Frist, . . . . .	Mech. Eng., . . .	Louisville.
Roberts, George, . . . . .	Normal, . . .	Burnside.
Sams, James Robert, . . . . .	Classical, . . .	Cayce.
Sasser, William Henry, . . . . .	Classical, . . .	London.
Saunders, Carey Blackburn, . . . . .	Mech. Eng., . . .	New Castle.
Scott, George, . . . . .	Scientific, . . .	Lexington.
Scott, Louis Allen, . . . . .	Mech. Eng., . . .	Lexington.
Scrugham, James Graves, . . . . .	Mech. Eng., . . .	Lexington.
Sharon, John Albatrus, . . . . .	Normal, . . .	Mt. Olivet.
Simpson, Eugene Erwin, . . . . .	Classical, . . .	Lexington.
Smedley, Albert, . . . . .	Classical, . . .	Fort Spring.
Smith, Albert Elias, . . . . .	Scientific, . . .	Owensboro.
Smith, Joshua Soule, . . . . .	Mech. Eng., . . .	Lexington.
Spears, Randa Lou, . . . . .	Scientific, . . .	Muir.
Sugg, Willis Herbert, . . . . .	Classical, . . .	Clinton.
West, Perry L., . . . . .	Mech. Eng., . . .	Nicholasville.
Wilkie, Amelia, . . . . .	Normal, . . .	Lexington.
Wilson, Samuel Elmore, . . . . .	Normal, . . .	Franklin.

## FRESHMEN.

Adler, Amy Miller, . . . . .	Classical, . . . . .	Lexington.
Arnett, Rufus Jackson, . . . . .	Mech. Eng., . . . . .	Leroy.
Asher, Andrew Jackson, . . . . .	Classical, . . . . .	Wasioto.
Bacon, Margaretta McAlister, . . . . .	Scientific, . . . . .	Lexington.
Baker, William Cross, . . . . .	Mech. Eng., . . . . .	Lexington.
Barclay, George Larue, . . . . .	Mech. Eng., . . . . .	Stephensport.
Bastin, Henly Vetter, . . . . .	Mech. Eng., . . . . .	Crab Orchard.
Bewlay, Harry, . . . . .	Civ. Eng., . . . . .	Lexington.
Billingsley, Harriet Evans, . . . . .	Scientific, . . . . .	Lexington.
Bramel, Amanda Isabelle, . . . . .	Scientific, . . . . .	Maysville.
Bryant, Lola Rebecca, . . . . .	Normal, . . . . .	Franklin.
Burgess, George Revil, . . . . .	Classical, . . . . .	Louisa.
Butler, Nannie Etta, . . . . .	Scientific, . . . . .	Lexington.
Caldwell, James Shipp, . . . . .	Civ. Eng., . . . . .	Paducah.
Campbell, Bruce Robinson, . . . . .	Mech. Eng., . . . . .	Lexington.
Cantrill, Walter Llewellyn, . . . . .	Mech. Eng., . . . . .	Paris.
Carpenter, Annie Elizabeth, . . . . .	Scientific, . . . . .	Lexington.
Clarke, Elizabeth Augusta, . . . . .	Scientific, . . . . .	Lexington.
Cohen, Minnie Marshall, . . . . .	Scientific, . . . . .	Lexington.
Cox, Lula May, . . . . .	Scientific, . . . . .	Lexington.
Dabney, Albert Smith, . . . . .	Classical, . . . . .	Cadiz.
Davenport, Ada Anderson, . . . . .	Scientific, . . . . .	Lexington.
Davie, Thomas Marion, . . . . .	Civ. Eng., . . . . .	Pisgah.
Denton, Thomas Jones, . . . . .	Mech. Eng., . . . . .	Lexington.
Dowling, William Edward, . . . . .	Scientific, . . . . .	Lawrenceburg.
Duncan, Fannie Brand, . . . . .	Scientific, . . . . .	Lexington.
Eastin, Daniel Preston, . . . . .	Scientific, . . . . .	Lexington.
Elderman, John Martin, . . . . .	Classical, . . . . .	Normal.
Elliott, Edward Cronley, . . . . .	Mech. Eng., . . . . .	Lexington.
Elliott, John Milward, . . . . .	Scientific, . . . . .	Lexington.
Evans, Eugene Ellis, . . . . .	Scientific, . . . . .	Lexington.
Farrell, Anna, . . . . .	Scientific, . . . . .	Paris.
Forman, Leila Ellen, . . . . .	Classical, . . . . .	Lexington.
Forman, Thomas Vernon, . . . . .	Scientific, . . . . .	Lexington.
Freeman, Ida Alice, . . . . .	Normal, . . . . .	Lexington.
Frisbee, Raymond Dunkler, . . . . .	Classical, . . . . .	Cynthiana.
Gibbons, Maude, . . . . .	Scientific, . . . . .	Lexington.
Gilbert, John Whittington, . . . . .	Scientific, . . . . .	Lawrenceburg.
Green, Francis Marion, . . . . .	Classical, . . . . .	Lexington.
Griffin, Lyda, . . . . .	Scientific, . . . . .	Lexington.
Hailey, George Hereford, . . . . .	Civ. Eng., . . . . .	Paducah.
Hannah, Edna May, . . . . .	Scientific, . . . . .	Lexington.
Harbison, Lucia Caldwell, . . . . .	Classical, . . . . .	Lexington.

Hatfield, Ulysses Grant, . . . . .	Normal, . . . . .	Jabez.
Hays, Anna Katherine, . . . . .	Scientific, . . . . .	Lexington.
Hogg, Samuel Tilden, . . . . .	Classical, . . . . .	Booneville.
Hornsey, Lida Pratt, . . . . .	Scientific, . . . . .	Lexington.
Hopkins, Arthur Earl, . . . . .	Mech. Eng., . . . . .	Lexington.
Hubbard, Joseph Abner, . . . . .	Normal, . . . . .	Beechville.
Humphreys, Claude Loacher, . . . . .	Mech. Eng., . . . . .	Lexington.
Hunt, Robert, . . . . .	Mech. Eng., . . . . .	Paris.
Hunter, Emma Bessenden, . . . . .	Scientific, . . . . .	Lexington.
Innes, Willie Richardson, . . . . .	Scientific, . . . . .	Lexington.
Jennings, William Thomas, . . . . .	Mech. Eng., . . . . .	Bardwell.
Johnson, Roberta, . . . . .	Scientific, . . . . .	Lexington.
Jones, Thomas Almon, . . . . .	Classical, . . . . .	Creelsboro.
Karr, Alice Tribble, . . . . .	Normal, . . . . .	Lexington.
Kaufman, Philip Levi, . . . . .	Mech. Eng., . . . . .	Lexington.
Keller, George Nelson, . . . . .	Agricultural, . . . . .	Louisville.
King, John Gilbert, . . . . .	Mech. Eng., . . . . .	Lexington.
Lary, Allen Petitt, . . . . .	Scientific, . . . . .	Lexington.
Ledford, Robert Hays, . . . . .	Scientific, . . . . .	Paintlick.
Lewis, Charles Dickens, . . . . .	Normal, . . . . .	Eubanks.
Loevenhart, Albert, . . . . .	Scientific, . . . . .	Lexington.
Loman, Lottie, . . . . .	Scientific, . . . . .	Lexington.
McArdle, Rose Latum, . . . . .	Scientific, . . . . .	Lexington.
McComis, Samuel J. Tilden, . . . . .	Normal, . . . . .	Adams.
McCormack, Leslie, . . . . .	Mech. Eng., . . . . .	Mt. Sterling.
McElroy, Paul Irvine, . . . . .	Classical, . . . . .	Lexington.
McDonald, Samuel Gilbert, . . . . .	Agricultural, . . . . .	New Castle.
Marshall, Albert Ross, . . . . .	Normal, . . . . .	Ossipee.
Martin, Lewis Wynne, . . . . .	Classical, . . . . .	Lexington.
Maxwell, Perry Duke, . . . . .	Classical, . . . . .	Marion.
Milburn, Frank William, . . . . .	Mech. Eng., . . . . .	Lexington.
Mumford, Robinson, . . . . .	Mech. Eng., . . . . .	Lexington.
Murray, Mary Woodward, . . . . .	Scientific, . . . . .	Lexington.
Newman, Samuel Lindsay, . . . . .	Classical, . . . . .	Louisville.
Nolin, Drusilla, . . . . .	Scientific, . . . . .	Lexington.
Offutt, Jimmie Morrison, . . . . .	Scientific, . . . . .	Lexington.
Parlin, John Andrew, . . . . .	Classical, . . . . .	Newport.
Perkins, Wade Hampton, . . . . .	Civ. Eng., . . . . .	Crab Orchard.
Ragan, Leonidas, . . . . .	Classical, . . . . .	Shearer Valley.
Rankin, Flora Emma, . . . . .	Classical, . . . . .	Rankin.
Reynolds, William Shelby, . . . . .	Civ. Eng., . . . . .	Flatlick.
Rice, Guy W., . . . . .	Scientific, . . . . .	Paintsville.
Richmond, Thomas Logan, . . . . .	Scientific, . . . . .	German't'n, Tenn.
Ripy, Francis Lilliard, . . . . .	Classical, . . . . .	Lawrenceburg.
Sasser, Arthur, . . . . .	Classical, . . . . .	London.

Samuels, Robert Edwin, . . . . .	Classical, . . . . .	Pineville.
Saylor, Josiah Clarke, . . . . .	Classical, . . . . .	Cubage.
Scott, Nellie Dumont, . . . . .	Scientific, . . . . .	Lexington.
Schaeffer, Carl Heindrich, . . . . .	Mech. Eng., . . . . .	Lexington.
Severs, Roscoe Frymire, . . . . .	Civ. Eng., . . . . .	Henderson.
Shedd, Oliver March, . . . . .	Scientific, . . . . .	Lexington.
Smarr, Henry Thomas, . . . . .	Civ. Eng., . . . . .	Brookville.
Smith, Andrew Mitchell, . . . . .	Normal, . . . . .	Centretown.
Spears, Estell Warfield, . . . . .	Mech. Eng., . . . . .	Lexington.
Spencer, Charles Abraham, . . . . .	Mech. Eng., . . . . .	Lexington.
Staples, James Henry, . . . . .	Mech. Eng., . . . . .	Lexington.
Stecker, Hannah Dora, . . . . .	Classical, . . . . .	Lexington.
Stoner, John Lee, . . . . .	Classical, . . . . .	Bardstown.
Strong, Earl Thomas, . . . . .	Civ. Eng., . . . . .	Pig.
Tarr, William Orr, . . . . .	Mech. Eng., . . . . .	Paris.
Thomson, Robert Johnson, . . . . .	Civ. Eng., . . . . .	Frost.
Treas, Charles, . . . . .	Civ. Eng., . . . . .	Benton.
Upington, George P., . . . . .	Mech. Eng., . . . . .	Lexington.
Van Orsdel, James Arthur, . . . . .	Mech. Eng., . . . . .	Lexington.
Vogt, John Leon, . . . . .	Agricultural, . . . . .	Louisville.
Webb, William Snyder, . . . . .	Scientific, . . . . .	Greendale.
Weil, Maurice, . . . . .	Mech. Eng., . . . . .	Lexington.
Wheat, Dorothy Johnson, . . . . .	Scientific, . . . . .	Lexington.
Wiley, Bettie, . . . . .	Classical, . . . . .	Lexington.
Williams, Ella Campbell, . . . . .	Scientific, . . . . .	Chilesburg.
Willim, James Frazer, . . . . .	Scientific, . . . . .	Valley.
Willim, John, . . . . .	Scientific, . . . . .	Valley.
Wilson, Richard Napoleon, . . . . .	Mech. Eng., . . . . .	Cynthiana.
Wood, Robert Murphy, . . . . .	Normal, . . . . .	Chaplin.



## NORMAL STUDENTS.

## FOR THE STATE DIPLOMA.

Wheatley, John Samuel, . . . . . Lexington.

## FOR THE STATE CERTIFICATE.

Alexander, Hollie, . . . . .	Canby.
Bagley, Nellie Rachel, . . . . .	Ashland.
Barnes, Ethel Rinda, . . . . .	Rankin.
Biddle, Lawrence Maywood, . . . . .	Mt. Auburn.
Bickers, Eddie, . . . . .	Fox Creek.
Blythe, Clarence Bradford, . . . . .	Graefenberg.
Burns, John, . . . . .	Alexandria.
Castillo, Anna Elizabeth, . . . . .	Steubenville.
Chrisman, Sallie, . . . . .	Steubenville.
Combs, Fernando, . . . . .	Sassafras.
Combs, John, . . . . .	Hazard.
Combs, Rankin, . . . . .	Sassafras.
Cooper, Mary Lizzie, . . . . .	Winchester.
Ditto, Leola, . . . . .	Pleasureville.
Duncan, Stella May, . . . . .	Richmond.
Durham, William Humphrey, . . . . .	Humphrey.
Ellison, Dean, . . . . .	Dallas.
Fish, Clarence Beauchamp, . . . . .	Biddle.
Fort, John Edgar, . . . . .	Argillite.
Fortney, William Frank, . . . . .	Barbourville.
Gilliland, Eugene, . . . . .	Preston.
Hale, Thomas David, . . . . .	Pellville.
Hamm, Ida May, . . . . .	Carlisle.
Hancock, Gustavus Adolphus, . . . . .	Elmville.
Hensley, Harvey, . . . . .	Big Creek.
Hughes, Lena Caroline, . . . . .	Lexington.
Hunt, Theodore Andrew, . . . . .	Springfield.
Jones, Leila Eleanor, . . . . .	Eminence,
Kenney, Jennie Henderson, . . . . .	Paris.
Kiser, Charles Lambert, . . . . .	Argillite.
Mayes, Russell Raymond, . . . . .	Bluelick Springs.
Ogden, James Clarence, . . . . .	Barterville.
Parson, Noah, . . . . .	Bardwell.
Perkins, Maud Ann, . . . . .	Lexington.
Perkins, Mary Matilda, . . . . .	Lexington.
Richardson, Mary Tarlton, . . . . .	Lexington.
Saunders, Nancy Garrett, . . . . .	Booneville.
Whitlock, Eddie, . . . . .	Kirksville.
Wilson, Emma Alice, . . . . .	Mt. Olivet.

## FOR THE COUNTY CERTIFICATE.

Adams, Arthur Franklin, . . . . .	Lexington.
Bartol, Katherine Alice, . . . . .	Lexington.
Blackard, Mollie, . . . . .	Loradale.
Borland, May Ola, . . . . .	Paris.
Breeding, Thomas Hogg, . . . . .	Booneville.
Brookshire, James Tilden, . . . . .	Owen.
Burns, Cora Thomas, . . . . .	Lexington.
Carey, Cora Wilson, . . . . .	Morehead.
Cassidy, Elizabeth, . . . . .	Lexington.
Conley, Tella May, . . . . .	Steubenville.
Cravens, Will Anna, . . . . .	New Castle.
English, Evarts Bland, . . . . .	Stephensport.
Gilliland, Mattie Florence, . . . . .	Lexington.
Glaze, Earl Lee, . . . . .	Chilesburg.
Grider, Elizabeth Scott, . . . . .	Bowling Green.
Gunn, Clara Brooke, . . . . .	Lexington.
Hair, Waldo Nita, . . . . .	Lexington.
Herrick, Nellie, . . . . .	Paris.
Hoskins, Ella, . . . . .	New Castle.
Hubbard, Isaac Millard, . . . . .	Portwood.
Kenney, Garrett Powell, . . . . .	Owenton.
Kenney, Priscilla, . . . . .	Owenton.
McEwan, Carrie, . . . . .	Winchester.
McGovern, Annie Teresa, . . . . .	Lexington.
Martin, Pierce, . . . . .	Humphrey.
Millard, Minnie Alice, . . . . .	Bloomington.
Minter, Mary, . . . . .	
Moore, Mark, . . . . .	Harrodsburg.
Nave, Willie Pearl, . . . . .	Lexington.
Parks, Mattie Leary, . . . . .	Lexington.
Payne, Claude Bryan, . . . . .	Payne's Depot.
Peebles, Clara Bell, . . . . .	Paris.
Powell, Marie, . . . . .	Lexington.
Powell, Stella, . . . . .	Lexington.
Roland, Merritt Lawson, . . . . .	Rankin.
Searcy, Lula, . . . . .	Lexington.
Smiley, Irene Walker, . . . . .	Lexington.
Smith, Christopher Columbus, . . . . .	Hopper.
Stevenson, Otie Lucile, . . . . .	Dodge.
Tanner, Olive May, . . . . .	Lexington.
Thomson, Samuel Charles, . . . . .	Newhaven.
Turner, Emily Minerva, . . . . .	Ewington.
Viley, Mary Bell, . . . . .	Lexington.
Ware, Amanda Ann, . . . . .	Pulaski.

Ware, Cornelius, . . . . .	Pulaski.
Whitehouse, William Ambrose, . . . . .	Orr.
Whitlock, Nannie Alma, . . . . .	Baldwin.
Williams, Cora, . . . . .	Lexington.
Woods, Lida Duke, . . . . .	Lexington.
Wood, Oliver, . . . . .	Vernon.
Yelton, Ira Edward, . . . . .	Butler.
Young, Martha Elizabeth, . . . . .	Maysville.

## UNCLASSIFIED.

Abshear, Zachary Martin, . . . . .	Normal, . . . . .	Booneville.
Bayer, John B., . . . . .	Chemical, . . . . .	Lexington.
Ellis, Nicholas Henry, . . . . .	Normal, . . . . .	Beech Grove.
Hanna, Varina Davis, . . . . .	Scientific, . . . . .	Lexington.
Hubbard, Eugene, . . . . .	Normal, . . . . .	Beechville.
Jackson, John Hunt, . . . . .	Normal, . . . . .	New Columbus.
Marshall, Martin Luther, . . . . .	Normal, . . . . .	New Columbus.
Pedigo, Mary Elizabeth, . . . . .	Normal, . . . . .	Edmonton.
Reese, Samuel Thomas, . . . . .	Normal, . . . . .	Trenton.
Roach, Thomas Gideon, . . . . .	Normal, . . . . .	Fulton.
Robinson, Julia May, . . . . .	Normal, . . . . .	Lexington.
Shely, Clara, . . . . .	Normal, . . . . .	Orr.
Tadlock, Vernon Lee, . . . . .	Normal, . . . . .	Danville.
Weaver, Jerrie, . . . . .	Normal, . . . . .	Ashland.
Wayne, Eugene Coleman, . . . . .	Agricultural, . . . . .	Oakton.
Wilson, Aroin Oris, . . . . .	Normal, . . . . .	Avenstoke.

## SHORT COURSE IN AGRICULTURE.

Miller, Samuel Tilden, . . . . .	Burdick.
White, Charles Robinson, . . . . .	Wade's Mills.

## THE ACADEMY.

## SECOND YEAR STUDENTS.

Allen, William Emmett, . . . . .	Bridgeport.
Barr, Thomas James, . . . . .	Lebanon.
Berry, Jesse, . . . . .	Whitesville.
Blackford, William Woods, . . . . .	Nicholasville.
Cassidy, Henry Duncan, . . . . .	Lexington.
Combs, James Horton, . . . . .	Lexington.
Coyne, Elizabeth Cecilia, . . . . .	Lexington.
Finneran, Thomas Francis, . . . . .	Midway.
Gibson, James Syer, . . . . .	Dayton.
Graves, Lottie Clovis, . . . . .	Hickman.
Griffing, William Stevens, . . . . .	Lexington.
Helm, Joseph Sparks, . . . . .	Lexington.
Hogg, William Pryse, . . . . .	Booneville.
Johnson, Simeon Brownlow, . . . . .	Chavies.
Jones, Theophilus Tolman, . . . . .	Manchester.
Land, Alice Wilson, . . . . .	Lexington.
Lyle, Cornelius Railey, . . . . .	Lexington.
McVean, Donald Grant, . . . . .	Grant's Bend.
Mattingly, Walter Hill, . . . . .	Louisville.
Nave, James Anderson, . . . . .	Nicholasville.
O'Mahoney, Katherine Marie, . . . . .	Lexington.
O'Rear, Harrison, . . . . .	Gilead.
Slade, DD., . . . . .	Lexington.
Swope, Armstead Milner, . . . . .	East Hickman.
Tandy, Clarke Howell, . . . . .	Hopkinsville.
Threlkeld, William Thomas, . . . . .	Morganfield.
Warnock, Thomas Edwin, . . . . .	Ellerslie.

## FIRST YEAR STUDENTS.

Armstrong, Cassius Clay, . . . . .	Lexington.
Arnold, Gustave Pugh, . . . . .	Frankfort.
Atkins, Bessie Ryland, . . . . .	Lexington.
Bedford, Hillary Allen, . . . . .	Lexington.
Bogard, Edward, . . . . .	Goldenpond.
*Broadbent, William Clarence, . . . . .	Wallonia.
Bryan, Massie Womack, . . . . .	Brannon.
Buchanan, E D, . . . . .	Payne's Depot.
Chambers, Charles Howard, . . . . .	Grassylick.
Clarke, Clarence Cornell, . . . . .	Pleasureville.

Clay, Anna Gratz, . . . . .	Lexington.
Cornelison, Rex Platt, . . . . .	Symsonia.
Dodd, Charles William, . . . . .	Walnuthill.
Dowling, Edward Thomas, . . . . .	Lexington.
Ethington, James William, . . . . .	Defoe.
Faris, George Christy, . . . . .	Kirksville.
Faris, Joseph Cohen, . . . . .	Sharpsburg.
Finneran, James Cornelison, . . . . .	Midway.
Gilchrist, Margaret Cornelison, . . . . .	Lexington.
Gill, Mary Cecilia, . . . . .	Lexington.
Goodloe, Paul Miller, . . . . .	Whites Station.
Hare, Starkey Sharp, . . . . .	Kirklevington.
Hibler, Annie Croxton, . . . . .	Paris.
Hoskins, Orlando Dubois, . . . . .	Flannagan.
Howard, William Virgil, . . . . .	Greencastle.
Ismon, Ralph Edward, . . . . .	Columbus, Ohio.
*Jesse, William Dunlap, . . . . .	Versailles.
Kimbrough, Allen Frazer, . . . . .	Oxford.
Kriegel, William, . . . . .	Lexington.
Lancaster, Joseph Woolfolk, . . . . .	Lexington.
Lester, Joshua Dorrel, . . . . .	Guthrie.
Morris, Henry Raymond, . . . . .	Morgan.
O'Brien, William Smith, . . . . .	Lexington.
Payne, Walter Schaeffer, . . . . .	Payne's Depot.
Pryse, Wayne, . . . . .	Beattyville.
Railey, Edward Bayard, . . . . .	Lexington.
Robb, Carroll Means, . . . . .	Brannon.
Robb, James Means, . . . . .	Brannon.
Scearce, Henrietta Frances, . . . . .	Lawrenceburg.
Scott, James Love, . . . . .	Lexington.
Sellers, Wallace Johnston, . . . . .	Brannon.
Shannon, Bernadette Mary Lucy, . . . . .	Lexington.
Smith, Edna Floris, . . . . .	Oakton.
Smith, Roger Hanson, . . . . .	Lexington.
Stackhouse, Clifton Carr, . . . . .	Lexington.
Stockdale, Ernest Jeffrey, . . . . .	Locust.
Thompson, Butler Fauntleroy, . . . . .	Lexington.
Unthank, Dale Carter, . . . . .	Pineville.
Ware, Krille, . . . . .	Brannon.
Wheat, Oma Bell, . . . . .	Lexington.
Woodford, Earl Thomas, . . . . .	Pine Grove.
Woodford, Leon Catesby, . . . . .	Pine Grove.
Wurtele, Edward Conrad, . . . . .	Louisville.
Young, Minor Edgar, . . . . .	Russell Cave.

\*Had two classes in the College.



## REGULATIONS.

### TRAVELING EXPENSES OF STUDENTS.

By the terms of the recent legislation upon the Agricultural and Mechanical College of Kentucky, a county appointee is entitled to have his traveling expenses from home to the College and return paid by the College, on the following conditions:

1st. He must be appointed according to law, a copy of which is in the hands of each County Superintendent of Schools.

2d. He must travel from home to the College by the shortest, least expensive and most expeditious route, and take receipts for all necessary expenses of travel, depositing the same, upon arrival, with the President of the College.

3d. He must present himself for matriculation within one week after the beginning of the fall term of the collegiate year.

4th. He must bring a certificate of good moral character, signed by two or more well-known and responsible citizens of his county.

5th. He must pass creditably the entrance examination required for admission.

6th. He must remain a student of the College for ten consecutive months, or one collegiate year.

7th. He must maintain during the collegiate year such class standing as will enable him to pass the final examination at the end of the year.

8th. He must maintain a good character and maintain such class standing as the regulations require.

9th. He must sign a declaration at the end of the collegiate year that he has not knowingly violated any of the regulations, involving his moral character as a student, nor been a party directly or indirectly to the injury of property on the College grounds or in the College buildings.

If at the end of the collegiate year the foregoing conditions have been complied with, the President of the College shall certify the fact to the Treasurer of the College, who, upon said certificates as vouchers, shall pay to the appointee the amount shown by the receipts aforesaid, and in addition thereto the sum for discharging the necessary expenses to be incurred in returning home.

## COLLEGE EXPENSES.

The necessary expenses of a student while at College need not exceed the following estimates. As a rule the less pocket-money allowed by parents or guardians the better it is for the pupil. When supplies of pocket-money are kept short the opportunity for contracting vicious habits is correspondingly diminished. Students should not be allowed by their parents to create any debts. All moneys intended for the use of the students should be deposited with the Commandant.

For a county appointee, occupying a room in the dormitory and boarding in the common mess, the necessary expenses are as follows :

Tuition free, . . . . .	\$000 00
Matriculation free, . . . . .	000 00
Room rent free, . . . . .	000 00
Use of furniture in room, . . . . .	2 50
Washing, about, . . . . .	10 00
Uniform, . . . . .	19 00
Board, 38 weeks, at \$2.25 per week, . . . . .	85 00
Books, about, . . . . .	8 00
Total, . . . . .	<u>\$124 50</u>

Each room must be provided by each occupant thereof, *at his own expense*, with a good mattress, three comforts or blankets, one pillow, three pillow-slips, four sheets, looking-glass, blacking-brush, hair-bush, clothes-broom or brush. Some of these articles may be brought from home by the student.

For students who are not supplied with appointments from the Legislative Representative Districts of the Commonwealth, and who board in private families, the necessary expenses will be as follows :

Tuition fee, . . . . .	\$15 00
Matriculation fee, . . . . .	5 00
Board and lodging, 38 weeks, at \$3.50 to \$4 per week, . . . . .	133 00 to \$152 00
Washing, . . . . .	10 00
Uniform, . . . . .	19 00
Books and stationery, . . . . .	10 00
Total, . . . . .	<u>\$192 00 to \$201 00</u>

Those who occupy rooms in the dormitory pay \$6.50 each (yearly) for the use of a room and its furniture. A standing

deposit of \$5 is required from each student, which deposit is refunded when his connection with the College is terminated, less the amount which may be assessed against him for damages done to the buildings, furniture, or premises. All damages, injuries, defacements, etc., which rooms and furniture in the dormitory sustain during occupancy will be charged to the occupant thereof. All injuries, damages, defacements, etc., which the halls and dining-room sustain will, unless specifically traced, be charged to the occupants of the respective sections collectively.

#### BOARDING.

For the accommodation of students sent as beneficiaries of Legislative Representative Districts of the State, rooms for one hundred and forty students are provided in the dormitories. To these good, substantial board is furnished at \$2.25 per week, payable weekly in advance; but no student under seventeen years of age will be permitted to room in the dormitories unless all of his classes shall be in one of the regular collegiate courses. Good boarding, with fuel, lights, and furnished room, can be obtained in private families at rates varying from \$3.50 to \$4 per week.

The students who board in the dormitories are, for business purposes, organized at the beginning of the collegiate year under a Chairman and Secretary of their own choice, whose successors are elected on the first Tuesday of each term, and who serve for one term. At the business meeting, held on Tuesday night of each week, the weekly dues, \$2.25, are paid. The boarding department is managed by a Board consisting of the President of the College, the Commandant, a Treasurer, who is a member of the Faculty, and into whose hands all the weekly dues are placed when collected, a Steward, and the Chairman and Secretary selected by the students. It will thus be seen that the boarding department has no official connection with the College authorities. The College, as such, does not board the students, and is in no sense responsible for any debts created by the boarding department. Three members of the Faculty, in their individual capacity, assist in the management of its funds.

No provision is made for women in the dormitories.

## BENEFICIARIES.

Each Legislative Representative District is allowed to send, on competitive examination, *one properly prepared student* each year, to this College, free of charge for tuition.

## FREE TUITION.

A statement for the guidance of County Superintendents:  
1. If a county forms one or more than one Legislative Representative District, each district is entitled to keep four students in the College and four in the Normal School free of tuition.

2. If a Legislative Representative District embraces more than one county, each county is entitled to keep four students in the College and four in the Normal School free of tuition.

Beneficiaries are appointed on competitive examination. A Board of Examiners is appointed for this purpose by the County Superintendent of common schools. The results of examination are reported to the Superintendent, who, from the data thus furnished, selects the appointee. Examinations are made upon subjects transmitted to the County Superintendent by the Faculty of the College. One appointment is made each year.

Appointments are made by the County Superintendent between the first day of June and the first day of August of each year. Appointments when made should be immediately certified to the President of the College.

Appointments for the College proper, viz., the Agricultural, Mechanical Engineering, Civil Engineering, Scientific, Classical, and Normal Collegiate courses are all valid for the term of years necessary to complete the course of study in which the appointee matriculates. This includes the course in the Academy.

It follows from the above that a county which makes its appointments regularly according to law will have for the session of 1893-4 one appointee in the College, for the session of 1894-5 two appointees, for the session of 1895-6 three appointees, for the session of 1896-7 four appointees. When the first appointee completes his course, or ceases to be a student, another appointee takes his place. When the quota of a county is full it will have at least four appointees in regular attendance.

Each appointee is required to pass an entrance examination at the College on the subjects comprising all that is embraced in



Arithmetic, English Grammar, Geography, and United States History, in the Common School Course.

All persons are eligible between the ages of fourteen and twenty-four who have completed the Common School Course—preference being given to young men or women whose means are limited, to aid whom this provision is especially intended.

Any person not an appointee may enter the College on payment of fees, but no one who is not an appointee receives traveling expenses or is exempt from payment of fees.

#### APPOINTEES TO THE NORMAL COURSE.

The law makes provision for the appointment of four teachers, or persons preparing to teach, each year. Appointments may be made and certified to the President of the College between the first day of July and the thirty-first day of December of each year.

Appointments to the Normal School are tenable for one year.

Applicants for appointments are examined by a Board of Examiners appointed by the County Superintendent on subjects transmitted by the Faculty, viz., upon Arithmetic, English Grammar, United States History, and Geography. They should not be less than seventeen years of age. They are also required to pass an entrance examination at the College. They must likewise bring certificates of good moral character.

Matriculates of the Normal Department will be required to sign an obligation to teach in the Common Schools of Kentucky for as many months as they receive free tuition.

#### SPECIAL COURSES OF STUDY.

Special courses of study are not provided for in the Academy, the Normal School or the College proper; provided, however, that persons who have passed the age of twenty-four years, the limit below which appointments as beneficiaries under the law must be made, may under certain conditions be allowed to pursue selected studies without matriculating in one of the regular courses of the College.

#### CHANGE OF CLASSIFICATION.

No change of classification is allowed during the session.



## ACCREDITED SCHOOLS.

Schools, whether public or private, may be accredited in accordance with a resolution of the Faculty providing that graduates of these may be exempted from entrance examinations to the College where the heads of these schools have complied with certain conditions.

Further than this the Faculty will recommend to the Board of Trustees that an annual award of a free scholarship be made to the pupil in each accredited school who has completed the certified course with the highest class standing. This scholarship entitles the recipient to free tuition. If, in addition, the holder of a scholarship obtains the "County Appointment," he is entitled to free room in one of the dormitories and free traveling expenses.

A revised list of these schools is appended :

## PUBLIC HIGH SCHOOLS.

- ‡Ashland, J. G. Crabbe, Superintendent.
- ‡Bellevue, J. M. N. Downes, Superintendent.
- ‡Carlisle, W. F. Ramey, Superintendent.
- ‡Catlettsburg, J. B. Leech, Superintendent.
- ‡Corydon, C. E. Dudley, Superintendent.
- ‡Covington, John Morris, Superintendent.
- ‡Cynthiana, C. A. Leonard, Superintendent.
- ‡Dayton, F. S. Alley, Superintendent.
- ‡Elizabethtown, A. R. Thomas, Superintendent.
- ‡Flemingsburg, J. T. Leahy, Superintendent.
- ‡Frankfort, McHenry Rhoads, Superintendent.
- ‡Harrodsburg, C. W. Bell, Superintendent.
- ‡Henderson, Henderson High School, W. B. Tharp, Principal.
- ‡Hopkinsville, Livingston McCartney, Superintendent.
- ‡Lawrenceburg, H. V. Bell, Superintendent.
- Lexington, Rogers Clay, Superintendent.
  - ‡Johnson High School, W. K. Shelby, Principal.
  - ‡Dudley High School, Col. Graves, Principal.
- Louisville, E. H. Mark, Superintendent.
  - ‡Female High School, W. H. Bartholomew, Principal.
  - ‡Male High School, R. P. Halleck, Principal.
  - ‡Manual Training High School, H. G. Brownell, Principal.
- ‡Ludlow, Aaron Grady, Superintendent.
- ‡Marion, Charles Evans, Superintendent.
- ‡Maysville Male High School, G. E. Hutchins, Principal.
- ‡Maysville Female High School, Miss Fanny I. Gordon, Principal.

- ‡Middlesboro, S. L. Frogge, Superintendent.
- †Mt. Sterling, Mrs. N. K. Hibler, Principal.
- ‡Newport, John Burk, Superintendent.
- ‡Nicholasville, R. G. Lowry, Superintendent.
- ‡Owensboro, James McGinniss, Superintendent.
- ‡Paducah, Geo. O. McBroom, Superintendent.
- ‡Paris, E. W. Weaver, Superintendent.
- †Smithland, Miss Martha Grassham, Principal.
- ‡Somerset, Alfred Livingston, Superintendent.
- ‡Uniontown, C. H. Gordinier, Superintendent.
- †Winchester, R. M. Shipp, Superintendent.

#### PRIVATE ACADEMIES AND HIGH SCHOOLS.

- \*Cynthiana, Smith's Classical School, N. F. Smith, Principal.
- \*Franklin, Training School, McCutchen and Finn, Principals.
- †Fulton, Carr Institute, C. W. Oldham, Principal.
- †Lexington, Private School, Miss Ella M. Williams, Principal.
- †Lexington, Private School, Miss McElhinny, Principal.
- \*Lexington, Alleghan Academy, A. N. Gordon, Principal.
- \*Louisville, St. Xavier's College, Bro. James, Principal.
- \*Nicholasville, Jessamine Institute, Mrs. Vineyard, Principal.
- †Owenton, Owenton High School, H. C. Smith, Principal.
- \*Paris, Boys' School, Prof. William Yerkes, Principal.
- \*Versailles, Rose Hill Seminary, Miss Gillie Crenshaw, Principal.
- \*Williamsburg, Williamsburg Institute, J. N. Prestridge, President.
- †Williamsburg, Williamsburg Academy, Prof. Stevens, Principal.

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\*Accredited on subjects covered by certificates of proficiency.

†Accredited to Freshmen.

‡Accredited to Freshmen and higher on specified branches.

The lack of uniformity that still obtains with reference to High School Courses of Study in this State renders it difficult to indicate here the exact degree of credit that should be accorded these, where they are equivalent to something higher than the first year in college. It seems advisable, therefore, simply to accredit all alike to Freshmen, and provide for higher classification of the student by special certificate, should that be necessary.

An application from a Superintendent or Principal, requesting that his school be placed in a list with the above, should be accompanied by a report or catalogue of the school, giving the course of study. In case the latter is specific and the completion of it required for graduation, it may be accredited as a whole;

otherwise each student's proficiency will be accredited in subjects covered by certificates from the Principal.

The sciences taught in the preparatory schools are accredited as such, not as substitutes for the subjects pursued in the college under the same name.

#### MANUAL LABOR.

The work necessary for carrying on the agricultural and horticultural operations of the College is done by the students, and is paid for at rates varying from six to ten cents per hour. Its design is two-fold: to put in practice the instruction received in the class-room, and to assist students who are in need of money. The experience of this College is that of Agricultural Colleges generally—that compensated labor is not remunerative to the College.

*The College assumes no obligation to furnish students an opportunity to labor for compensation.*

Students are paid monthly for the service rendered, and apply the money as they see proper.

*No student, however, should come to this College expecting to maintain himself exclusively by compensated labor. At least seventy-five dollars per annum, exclusive of his earnings while here, should be at the command of every student who wishes to avail himself of the advantages of the system of compensated labor.*

#### CERTIFICATES OF CHARACTER.

All applications for admission into any class of the College or Academy must bring satisfactory testimonials of good moral character.

#### THE MONITRESS.

The young women who attend the College have assigned for their exclusive use a large and well-appointed study room. Here, while they are not engaged in the class-rooms or in the chapel, they are under the constant and strict supervision of the Monitress, Mrs. Blackburn, who has been long connected with the College and is well qualified for her duties.

#### THE APPENDIX.

Attention is invited to the statistics given in the Appendix to this Catalogue.

## CALENDAR.

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### 1898.

Entrance Examinations begin . . . . .	Monday, Sept. 5th.
First Term begins . . . . .	Thursday, Sept. 8th.
Evening Reception to Students . . . . .	Friday, Sept. 30th.
Thanksgiving . . . . .	Thursday, Nov. 24th.
Board of Trustees meet . . . . .	Tuesday, Dec. 13th.
Christmas Holidays begin . . . . .	Wednesday, Dec. 21st.

### 1899.

College Duties resumed . . . . .	Monday, Jan. 2d, 8:30 A. M.
Second Term begins . . . . .	Monday, Jan. 23d.
Washington's Birthday . . . . .	Wednesday, Feb. 22d.
Union Society Contest . . . . .	Wednesday, Feb. 22d.
Patterson Society Contest . . . . .	Saturday, March 25th.
Senior Examinations begin . . . . .	Monday, May 8th.
General Examinations begin . . . . .	Monday, May 15th.
Board of Trustees meet . . . . .	Tuesday, May 30th.
Class Day . . . . .	Wednesday, May 31st.
Alumni Banquet . . . . .	Wednesday, May 31st.
Commencement . . . . .	Thursday, June 1st.

## COLLEGE DIRECTORY.

## RESIDENCES.

## COLLEGE QUARTERS.

ANDERSON, F. PAUL, . . . . .	69 Kentucky Avenue, . . . . .	Mechanical Hall.
AUBREY, THOMAS, . . . . .	243 S. Limestone, . . . . .	College Boiler Room.
BLACKBURN, MRS. LUCY B., . . . . .	Central Avenue, . . . . .	No. 14, First Floor, College.
BLANTON, ROBERT L., . . . . .	50 W. Second, . . . . .	No. 13, First Floor, College.
BROOKS, JOHN P., . . . . .	32 Market, . . . . .	Second Floor, Mechanical Hall.
BROWN, ERNEST F., . . . . .	242 N. Broadway, . . . . .	No. 8, First Floor, College.
CURTIS, HENRY E., . . . . .	126 S. Upper, . . . . .	Chemical Laboratory, Station.
DAVIS, JOSEPH M., . . . . .	16 Park Place, . . . . .	No. 1, Basement, College.
DEBOW, S. C., . . . . .	196 E. High, . . . . .	Mechanical Hall.
DICKER, JOSEPH, . . . . .	26 Virginia Avenue, . . . . .	Mechanical Hall.
GARMAN, HARRISON, . . . . .	424 S. Limestone, . . . . .	Basement, Station.
HARPER, JOSEPH N., . . . . .	5 S. Limestone, . . . . .	Experiment Farm.
HODGES, MISS MARY, . . . . .	359 E. Main, . . . . .	No. 10, First Floor, College.
JOHNSON, JAMES R., . . . . .	236 E. Maxwell, . . . . .	Woodshop, Mechanical Hall.
KASTLE, JOSEPH H., . . . . .	175 E. Maxwell, . . . . .	Chemical Laboratory, Station.
LOGAN, J. LEWIS, . . . . .	132 S. Broadway, . . . . .	No. 2, Basement, College.
MATHEWS, C. W., . . . . .	410 S. Limestone, . . . . .	First Floor, Science Hall.
MILLER, ARTHUR M., . . . . .	107 E. Maxwell, . . . . .	1st and 2d Floors, Science Hall.
MILLIGAN, R. A., . . . . .	492 S. Limestone, . . . . .	Mechanical Hall.
MUNCY, V. E., . . . . .	116 E. Maxwell, . . . . .	No. 10, First Floor, College.
MURRAY, JAMES, . . . . .	428 S. Limestone, . . . . .	College Observatory.
NEVILLE, JOHN H., . . . . .	218 W. Main, . . . . .	No. 21, Third Floor, College.
PATTERSON, JAMES K., . . . . .	President's House, . . . . .	No. 12, First Floor, College.
PATTERSON, WALTER K., . . . . .	President's House, . . . . .	No. 17, Second Floor, College.
PENCE, M. L., . . . . .	108 Merino, . . . . .	Nos. 5 and 7, Basement, College.
PETER, ALFRED M., . . . . .	236 E. Maxwell, . . . . .	Chemical Laboratory, Station.
PRYOR, JOSEPH W., . . . . .	98 E. Maxwell, . . . . .	Second Floor, Science Hall.
RHORER, EDWARD, . . . . .	116 W. Short, . . . . .	Office, Station.
ROARK, RURIC N., . . . . .	420 S. Limestone, . . . . .	No. 11, First Floor, College.
SAUNDERS, JAMES E., . . . . .	14 Virginia Avenue, . . . . .	Mechanical Hall.
SCOVELL, M. A., . . . . .	Experiment Farm, . . . . .	Office, Station.
SHACKLEFORD, JOHN, . . . . .	71 Woodland Avenue, . . . . .	No. 19, Second Floor, College.
SHELBY, MISS ALICE M., . . . . .	70 Ashland Avenue, . . . . .	Office, Station.
STURDEVANT, CHARLES R., . . . . .	172 W. Maxwell, . . . . .	Mechanical Hall.
SWIGERT, S. M., . . . . .	Commandant's House, . . . . .	No. 5, Basement, College.
WELLS, J. H., . . . . .	107 E. Maxwell, . . . . .	Second Floor, Mechanical Hall.
WERNICKE, PAUL, . . . . .	107 E. Maxwell, . . . . .	No. 20, Second Floor, College.
WHITE, JAMES G., . . . . .	140 E. Maxwell, . . . . .	No. 15, First Floor, College.
WHITE, MILFORD, . . . . .	171 S. Limestone, . . . . .	First Floor, College.



## APPENDIX.

SHOWING THE AMOUNTS CONTRIBUTED BY TAXATION OR BY LEGISLATIVE APPROPRIATION FOR HIGHER EDUCATION IN NINETEEN STATES FOR THE YEAR 1897.

	By Taxation.	By Appropriation.	Population 1890.
Arkansas, . . . . .	. . . . .	. . . . .	1,128,179
To State University and A. and M. College, . . . . .	. . . . .	\$34,650	. . . . .
California, . . . . .	. . . . .	. . . . .	1,208,130
To State University and A. and M. College, . . . . .	\$128,415	. . . . .	. . . . .
Three Normal Schools, . . . . .	. . . . .	136,500	. . . . .
Georgia, . . . . .	. . . . .	. . . . .	1,837,353
To State University and A. and M. College, . . . . .	. . . . .	14,500	. . . . .
Normal Schools, . . . . .	. . . . .	22,500	. . . . .
Negro College, . . . . .	. . . . .	8,000	. . . . .
Girls' Industrial School, . . . . .	. . . . .	22,500	. . . . .
Branch College, . . . . .	. . . . .	6,000	. . . . .
Illinois, . . . . .	. . . . .	. . . . .	3,826,351
To State University and Four Normal } Schools, . . . . . }	. . . . .	416,332	. . . . .
Indiana, . . . . .	. . . . .	. . . . .	2,192,404
To State University, . . . . .	80,000	5,000	. . . . .
Purdue University, . . . . .	60,000	18,000	. . . . .
Normal Schools, . . . . .	60,000	10,000	. . . . .
Iowa, . . . . .	. . . . .	. . . . .	1,911,896
To State University, . . . . .	54,820	86,500	. . . . .
*A. and M. College, . . . . .	. . . . .	28,075	. . . . .
Normal Schools, . . . . .	. . . . .	34,500	. . . . .
Kansas, . . . . .	. . . . .	. . . . .	1,427,096
To State University, . . . . .	. . . . .	89,678	. . . . .
A. and M. College, . . . . .	No report.	. . . . .	. . . . .
Normal Schools, . . . . .	. . . . .	30,450	. . . . .
Kentucky, . . . . .	. . . . .	. . . . .	1,858,635
To A. and M. College, . . . . .	32,429	. . . . .	. . . . .
Michigan, . . . . .	. . . . .	. . . . .	2,093,889
To State University, . . . . .	184,000	26,000	. . . . .
A. and M. College, . . . . .	No report.	. . . . .	. . . . .
Normal Schools, . . . . .	No report.	. . . . .	. . . . .
Minnesota, . . . . .	. . . . .	. . . . .	1,301,826
To State University and A. and M. } College, . . . . . }	. . . . .	107,500	. . . . .
Normal Schools, . . . . .	102,000	36,000	. . . . .
Mississippi, . . . . .	. . . . .	. . . . .	1,289,600
To State University, . . . . .	32,643	5,000	. . . . .
A. and M. College, . . . . .	. . . . .	25,000	. . . . .
Girls' Industrial Institute, . . . . .	. . . . .	25,000	. . . . .

\* Endowment Fund, \$550,000.

	By Taxa- tion.	By Appro- priation.	Population 1890.
Missouri, . . . . .	. . . . .	. . . . .	2,679,184
†To State University, . . . . .	. . . . .	\$33,500	. . . . .
School of Mines, . . . . .	. . . . .	8,000	. . . . .
Normal Schools, . . . . .	No report.		. . . . .
Nebraska, . . . . .	. . . . .	. . . . .	1,058,910
To State University, . . . . .	. . . . .	126,250	. . . . .
State Industrial School, . . . . .	. . . . .	42,225	. . . . .
Girls' Industrial School, . . . . .	. . . . .	19,350	. . . . .
Normal School, . . . . .	. . . . .	24,921	. . . . .
North Carolina, . . . . .	. . . . .	. . . . .	1,617,947
To State University, . . . . .	. . . . .	25,000	. . . . .
A. and M. College, . . . . .	No report.		. . . . .
State Normal and Industrial College, . . . . .	. . . . .	25,000	. . . . .
Ohio, . . . . .	. . . . .	. . . . .	3,672,316
To State University, . . . . .	\$174,000	. . . . .	. . . . .
Ohio University, . . . . .	33,000	. . . . .	. . . . .
Miami University, . . . . .	24,000	. . . . .	. . . . .
Wilberforce University, . . . . .	19,000	. . . . .	. . . . .
South Carolina, . . . . .	. . . . .	. . . . .	1,151,149
To South Carolina College, . . . . .	. . . . .	25,000	. . . . .
A. and M. College, . . . . .	60,000	. . . . .	. . . . .
State Normal School, . . . . .	. . . . .	35,000	. . . . .
Military School, . . . . .	. . . . .	21,000	. . . . .
Virginia, . . . . .	. . . . .	. . . . .	1,655,980
To State University, . . . . .	. . . . .	45,000	. . . . .
Polytechnic Institute, . . . . .	. . . . .	15,750	. . . . .
Normal Schools, . . . . .	. . . . .	30,000	. . . . .
Virginia Military Institute, . . . . .	. . . . .	30,000	. . . . .
West Virginia, . . . . .	. . . . .	. . . . .	762,794
To State University, . . . . .	. . . . .	36,550	. . . . .
A. and M. College, . . . . .	. . . . .	15,000	. . . . .
Normal Schools, . . . . .	. . . . .	46,475	. . . . .
Wisconsin, . . . . .	. . . . .	. . . . .	1,686,880
To State University and A. and M. College, . . . . .	250,000	. . . . .	. . . . .
Normal Schools, . . . . .	120,000	60,000	. . . . .

† Endowment Fund, \$1,229,000. Endowments in other States not reported.



# CATALOGUE

OF THE

OFFICERS, STUDIES, AND STUDENTS

OF THE

STATE COLLEGE OF KENTUCKY,

LEXINGTON,

WITH A PART OF THE REGULATIONS,

FOR THE

SESSION ENDING JUNE 1, 1899.

---

LOUISVILLE:

JOHN P. MORTON & COMPANY.

1899.





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# THE STATE COLLEGE OF KENTUCKY.

## HISTORY.

**A**GRICULTURAL and Mechanical Colleges in the United States owe their origin to an act of Congress, entitled "An act Donating Public Lands to the several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts," approved July 2, 1862. The amount of land donated was 30,000 acres for each representative in the National Congress. Under this allotment Kentucky received 330,000 acres. Several years elapsed before the Commonwealth established an Agricultural and Mechanical College under the act. When established it was not placed upon an independent basis, but was made one of the Colleges of Kentucky University, to which institution the annual interest of the proceeds of the Congressional land grant was to be given for the purpose of carrying on its operations. The land-scrip had meanwhile been sold for fifty cents per acre, and the amount received—\$165,000—invested in six per cent Kentucky State bonds, of which the State became custodian in trust for the College.

The connection with Kentucky University continued till 1878, when the act of 1865, making it one of the Colleges of said University, was repealed, and a Commission was appointed to recommend to the Legislature of 1879-80 a plan of organization for an institution, including an Agricultural and Mechanical College, such as the necessities of the Commonwealth required. The city of Lexington offered to the Commission (which was also authorized to recommend to the General Assembly the place which, all things considered, offered the best and greatest inducements for the future and permanent location of the College), the City Park, containing fifty-two acres of land, within the limits of this city, and thirty thousand dollars in city bonds for the erection of buildings. This offer the county of Fayette supplemented by twenty thousand dollars in county bonds, to be used either for the erection of buildings or for the purchase of land. The offers of the city of Lexington and of the county of Fayette were accepted by the General Assembly.

By the act of incorporation, and the amendments thereto, constituting the charter of the Agricultural and Mechanical College of Kentucky, liberal provision is made for educating, free of tuition, the energetic young men of the Commonwealth whose means are limited. The Normal Department, for which provision is also made, is intended to aid in building up the Common School system by furnishing properly qualified teachers. This College, with the additional departments which will, from time to time, be opened as the means placed at the disposal of the Trustees allow, will, it is hoped, in the not distant future, do a

great work in advancing the educational interest of Kentucky. Being entirely undenominational in its character it will appeal with confidence to the people of all creeds and of no creed, and will endeavor, in strict conformity with the requirements of its organic law, to afford equal advantages to all, exclusive advantages to none. The liberality of the Commonwealth in supplementing the inadequate annual income arising from the proceeds of the land-scrip invested in State bonds, will, it is believed, enable the Trustees to begin and carry on, upon a scale commensurate with the wants of our people, the operations of the institution whose management and oversight have been committed to them by the General Assembly of Kentucky.

### LEADING OBJECT.

In the act of Congress making provision for the class of colleges to which the State College partly belongs, it is declared "that their leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life." To the departments contemplated in the act, a Normal School has been added by the State and an Experimental Station by the United States.

### THE NORMAL SCHOOL.

The Normal Department of the State College exists under the authority of acts of the General Assembly approved April 23 and April 29, 1880. Section 7 of the first act briefly defines the object for which the Department was established, "a Normal Department or course of instruction for irregular periods, designed more particularly, but not exclusively, to qualify teachers for common and other schools, shall be established in connection with the College." The second act provides the necessary endowment to make the Department effective.

The number of students annually enrolled in the Normal School has exceeded expectation. As they come from all parts of the State, and many of them return well prepared for the profession of teaching, they must greatly promote the efficiency of our common schools generally, and demonstrate the wisdom of the General Assembly in providing an inexpensive Normal School, centrally located and easy of access, to keep the State always supplied with well-trained teachers.

### THE KENTUCKY EXPERIMENT STATION.

This Department of the State College originated in a resolution of the Executive Committee of the Board of Trustees, adopted in September, 1885, when the Department was organized and a Director appointed. In 1886 the Station was recognized and named by the

General Assembly, and in 1887 it and a similar Station in every other State were each endowed by Congress with an annual appropriation of \$15,000.

The work of the Station is directed to two objects: 1. To a constant succession of experiments made by specialists, in order to learn what applications of science will insure the best returns from the farm, the garden, the orchard, the vineyard, the stockyard, and the dairy. 2. To the publication of bulletins announcing such results of the experiments as are found to be valuable to any of our people that seek profit from either of those prime sources of wealth—the soil, the flock, or the herd.

Results of experiments have been published in nine reports and seventy-three bulletins, and general appreciation of their utility is shown in the fact that, while no bulletin is sent except upon application for it, the mailing list of the Station contains more than 8,000 names, and is ever increasing.

With an ample endowment, a large and commodious building planned for the purpose, adequate apparatus, a good experimental farm conveniently situated, and seven capable scientists always employed and in correspondence with other stations, The Kentucky Experiment Station is not only an important adjunct of the College in the education of students for the leading industrial pursuits, but directly or indirectly through the wide and continual diffusion of knowledge for the benefit of so large a proportion of our population, it is bound to be extremely useful to the Commonwealth at large.

### LOCATION.

The Agricultural and Mechanical College of Kentucky is established in the old City Park grounds of the City of Lexington, given to the Commonwealth for this purpose. The site is elevated, and commands a good view of the city and surrounding country.

Lexington is now the most important railroad center in Kentucky, being in immediate communication with Louisville, Cincinnati, Maysville, Chattanooga, and with more than seventy counties in the Commonwealth. The long-established reputation of the city for refinement and culture renders it attractive as a seat of learning, and the large body of fertile country adjacent, known as the "Blue Grass Region," with its splendid stock farms, affords unsurpassed advantages to the student of agriculture who desires to make himself familiar with the best breeds of horses, cattle, sheep, and swine in America.

### GROUNDS.

The campus of the College consists of fifty-two acres of land, located within the corporate limits of Lexington. The South Limestone Street electric car line extends along the greater part of its western border, giving opportunity to reach in a few minutes any part of the



city. The campus is laid out in walks, drives, and lawns, and is planted with a choice variety of native and exotic trees and shrubs, to which additions are constantly being made. A portion of the land has recently been reserved for a botanical garden, in which will be grown the most desirable native plants, with a view to testing their adaptability to cultivation, and to give increased facilities to students taking agricultural and biological courses. Two and a half acres, forming the north-east portion of the campus, inclosed and provided with a grand stand, is devoted to the field sports of students.

About three quarters of a mile south of the campus, on the Nicholasville pike, an extension of South Limestone Street, is the Experiment Station Farm, consisting of forty-eight and a half acres, to which sixty-four and a half acres have been added by recent purchase. Here the field experiments of the Station are conducted, and students have opportunities to witness tests of varieties of field crops, dairy tests, fertilizer tests, fruit-spraying tests, in short, all the scientific experimentation of a thoroughly equipped and organized Station. The front of the farm is pasture and orchard. The back portion is divided off into two hundred one-tenth acre plots, for convenience in making crop tests.

### BUILDINGS.

The main college building is a structure of stone and brick, 140 feet long and 68 feet in width. It contains the office of the President and of the Business Agent, and on the third floor, counting the basement floor as one, is the chapel, in which each day the students and Faculty meet, and in which are held public gatherings and such other meetings as bring together the entire student body. The remaining space in this building is occupied by recitation rooms and by the society rooms of the students.

The Station building is a handsome structure, well planned for the object for which it was made. It is seventy feet in length by fifty-four feet in width, with a tower projection in front, and an octagonal projection eighteen by eighteen on the north side. The building is two stories high, and a basement eleven feet from floor to ceiling. The main entrance is on the first floor, on the west side of the building, through an archway fifteen feet wide. The basement is occupied in part by the Station and in part by the College. The next floor above is devoted to office and laboratory work of the Station, while the upper floor accommodates the College work in Chemistry.

The building devoted to Mechanical Engineering covers altogether an area of about 20,000 feet, is constructed of stone and pressed brick, and is well furnished with modern conveniences for work in this branch of engineering.

Two large brick dormitories on the campus afford boarding conveniences for students who wish to lessen expense in this direction. Other buildings on the campus are a brick dwelling for the President and a cottage occupied by the Commandant.

Science Hall, built during the year 1897 for the Departments of Natural Science, is 96 x 97 feet, of pressed brick trimmed with Bowling Green limestone. The wide halls, the numerous and spacious lecture-rooms, laboratories and offices in its three stories are conveniently arranged, well lighted, and the rooms well furnished.

On the Experiment Farm are a brick dwelling occupied by the Director of the Station, and the usual farm buildings for the care of tools, the protection of stock, and the like.

## DEVELOPMENT.

The growth of the College from year to year is shown in the following summary :

1862. To establish and endow a college, chiefly for instruction in agriculture and the mechanic arts, an act of Congress apportioned to each State, for each of its Senators and Representatives in Congress, 30,000 acres of the public land.

1865. The General Assembly of Kentucky having accepted the State's portion under the conditions prescribed, established the Agricultural and Mechanical College, making it one of the colleges of Kentucky University, then recently united with Transylvania University and located at Lexington, citizens of Lexington and its vicinity donating \$110,000 to the Curators of the University to buy a site for the College. The General Assembly having authorized the Commissioners of the Sinking Fund to sell the 330,000 acres apportioned to Kentucky, by the mismanagement of the Commissioners' agent the State realized for its land only \$165,000.

1866. The College opened with a President, four Professors, and a Commandant.

1878. Dissatisfied with the management of the College by the Curators, who were engaged in a long factional strife, the General Assembly severed the connection with the University, and appointed a commission to re-locate the College, to provide for its continuance in operation till re-located, and to prepare "a plan for a first-class University." Kentucky University claiming and retaining the former site of the College, the sole property left the latter after the severance was an income of \$9,900 derived from the land grant.

1880. The City of Lexington offering the City Park of fifty-two acres as a new site for the College, and also \$30,000 in bonds, and the County of Fayette offering \$20,000 besides, the General Assembly ratified the selection of a site made by a majority of the commission, and located the College permanently in Lexington.

1880. To provide teachers for the Common Schools of the State and for other schools, the General Assembly added to the College a Normal Department, which should admit, besides other students, one from each representative district every year free of tuition.

1880. To further endow the College and to enable it to purchase apparatus, machinery, implements, and a library; to maintain the Normal Department, and to defray other necessary expenses, the General Assembly imposed a tax of one-half cent on each hundred dollars of the assessed value of all property in the State liable to taxation for State revenue and belonging to its white inhabitants.

1880. The Classical and Normal Departments and the Academy added.

1882. The College Building, the First Dormitory, and the President's House completed.

1885. The Commandant's House reconstructed.

1887. To enlarge by experiments and to diffuse the knowledge of agriculture, an act of Congress established, under the direction of the Agricultural and Mechanical College in each State, an Agricultural Experiment Station, appropriating for its support \$15,000 per annum.

1887. The Department of Civil Engineering established, an experimental farm of forty-eight acres purchased, and the College greenhouse built.

1889. The Experiment Station Building completed.

1890. The Second Dormitory completed.

1890. For "the more complete endowment" of Agriculture and Mechanical Colleges, an act of Congress appropriated to each State \$15,000 for the year ending June 30, 1890, and the same sum with an increase of \$1,000 per annum for ten years, after which the maximum of \$25,000 should continue without change. Of the amount thus annually appropriated, the College receives 85 per cent. and the school of the colored people at Frankfort 15 per cent.

1891. The Department of Mechanical Engineering established.

1892. The Mechanical Building and Workshops completed.

1894. Greenhouses for the Experiment Station built.

1895. The Annex to the Mechanical Building and the Insectarium for the Station built.

1897. The Department of Electrical Engineering established. Additions made to the Greenhouses and Insectarium.

1898. The Building for Natural Science completed.

1898. Sixty-four and a half acres added to the Experimental Farm, making 113 in all.

*Increase of Property*—The property of the College is estimated to be worth \$500,000 more than it was eighteen years ago.

*Increase of Teachers*—Before 1880 the College had six Professors; it now has sixteen Professors and eleven Assistants.

*Increase of Courses*—Before 1880 the College offered a single course of study leading to a degree; it now offers eight.

*Increase of Students*—The number enrolled during the session of 1898-99 is about 450, considerably the largest in the history of the College.

*Increase of Graduates*—No fact more distinctly marks the growth of the College than the increase in the number of its graduates. More students were graduated in 1897 than were graduated in the first seventeen years, and the number of those graduated during the last five is greater than that of the first twenty-seven.

## BOARD OF TRUSTEES.

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HIS EXCELLENCY GOVERNOR WILLIAM O. BRADLEY,  
CHAIRMAN EX-OFFICIO.

PRESIDENT JAMES K. PATTERSON,  
MEMBER EX-OFFICIO.

### TERM EXPIRES JANUARY, 1900.

GEN. D. C. BUELL . . . . .Paradise . . . . .Muhlenberg County.  
J. C. FLOURNOY, Esq . . . . .Fulton . . . . .Fulton County.  
HON. J. T. GATHRIGHT . . . . .Louisville . . . . .Jefferson County.  
HON. A. P. GOODING . . . . .Mayslick . . . . .Mason County.  
\*HON. CLARENCE U. McELROY .Bowling Green ..Barren County.  
HON. W. F. PEAK.....Bedford . . . . .Trimble County.

### TERM EXPIRES JANUARY, 1902.

GEN. E. H. HOBSON.....Greensburg . . . . .Green County.  
JOHN G. MATTHEWS, Esq.....Barbourville . . . . .Knox County.  
HON. HART BOSWELL.....Lexington . . . . .Fayette County.  
JOHN B. KENNEDY, Esq.....Paris . . . . .Bourbon County.  
CAPT. THOMAS TODD.....Shelbyville . . . . .Shelby County.

### TERM EXPIRES JANUARY, 1904.

D. F. FRAZEE, Esq.....Lexington . . . . .Fayette County.  
JUDGE WILLIAM H. HOLT.....Frankfort . . . . .Franklin County.  
JUDGE JOSEPH I. LANDES . . . . .Hopkinsville . . . . .Christian County.  
J. B. MARCUM, Esq.....Jackson . . . . .Breathitt County.  
R. C. STOLL, Esq . . . . .Lexington . . . . .Fayette County.

\* Appointed to succeed Gen. Buell, deceased.

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## EXECUTIVE COMMITTEE.

WILLIAM H. HOLT,  
*Chairman.*  
A. P. GOODING,  
JOHN B. KENNEDY,  
D. F. FRAZEE,  
R. C. STOLL.

---

VICTOR E. MUNCY,  
*Secretary of the Board and of the Committee.*

## FACULTY.

---

(In the order of appointment.)

JAMES KENNEDY PATTERSON, PH. D., LL.D., F. S. A., *President,*  
*Professor of History, Political Economy, and Metaphysics.*

JOHN SHACKLEFORD, A. M., *Vice-President,*  
*Professor of English and Logic.*

JAMES GARRARD WHITE, A. M.,  
*Professor of Mathematics and Astronomy.*

JOHN HENRY NEVILLE, A. M.,  
*Professor of Greek and Latin.*

WALTER KENNEDY PATTERSON, A. M.,  
*Principal of the Academy.*

JOSEPH HOEING KASTLE, PH. D.,  
*Professor of Chemistry.*

RURIC NEVILLE ROARK, PH. D.,  
*Principal of the Normal School.*

JOSEPH WILLIAM PRYOR, M. D.,  
*Professor of Anatomy and Physiology.*

FREDERIC PAUL ANDERSON, M. E.,  
*Professor of Mechanical Engineering.*

CLARENCE WENTWORTH MATHEWS, B. S.,  
*Professor of Botany, Horticulture, and Agriculture.*

ARTHUR MCQUISTON MILLER, A. M.,  
*Professor of Geology and Zoölogy.*

MERRY LEWIS PENCE, M. S.,  
*Professor of Physics.*

PAUL WERNICKE,  
*Professor of Modern Languages.*

JOHN PASCAL BROOKS, M. S.,  
*Professor of Civil Engineering.*

MATTISON BOYD JONES, A. B.,  
*Commandant and Professor of Military Science.*



## ASSISTANTS.

JOHN LEWIS LOGAN, A. B.,  
*First Assistant in the Academy.*

ROBERT LEE BLANTON, M. LIT.,  
*Assistant in Greek and Latin.*

JOSEPH MORTON DAVIS, A. B., B. S.,  
*Second Assistant in the Academy.*

VICTOR EMANUEL MUNCY, B. S.,  
*Third Assistant in the Academy.*

JAMES RICHARD JOHNSON, B. M. E.,  
*Assistant in Shop-work and Drawing.*

ERNEST FRANK BROWN, A. B.,  
*Instructor in Elocution.*

CHARLES RALPH STURDEVANT, M. E.,  
*Assistant in Electrical Engineering.*

SAMUEL CARRUTHERS DEBOW, B. M. E.,  
*Laboratory Assistant in Experimental Engineering.*

MILFORD WHITE, B. C. E.,  
*Assistant in the Normal School.*

JOHN THEODORE FAIG, M. E.,  
*Assistant in Mechanical Engineering.*

JAMES EDWARD SAUNDERS,  
*Assistant in Woodwork.*

JOSEPH DICKER,  
*Assistant in Forging and Foundry.*

MISS MIRIAM GRATZ CLAY,  
*Assistant in Drawing.*

---

## LECTURE ASSISTANTS.

WALLACE APPLETON BEATTY, M. S.,  
*Fellow in Chemistry.*

LA FAYETTE BRECKINRIDGE BROCK, B. S.,  
*Fellow in Biology.*

SAXE DABNEY AVERITT, B. S.,  
*Fellow in Botany.*

### OTHER OFFICERS.

MRS. LUCY BERRY BLACKBURN,  
*Monitress.*

JAMES GARRARD WHITE,  
*Business Manager.*

JOSEPH WILLIAM PRYOR, M. D.,  
*Surgeon of the Battalion.*

MISS MARY HODGES,  
*Stenographer.*

VICTOR EMANUEL MUNCY,  
*Secretary of the Faculty.*

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## THE KENTUCKY EXPERIMENT STATION.

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### BOARD OF CONTROL.

HON. HART BOSWELL, *Chairman* ..... Lexington.

HON. JOHN T. GATHRIGHT ..... Louisville.

CAPT. THOMAS TODD ..... Shelbyville.

PRESIDENT JAMES K. PATTERSON, *Ex-officio* ..... Lexington.

DIRECTOR M. A. SCOVELL, *Ex-officio* ..... Lexington.

### OFFICERS OF THE STATION.

MELVILLE AMASA SCOVELL,  
*Director.*

ALFRED MEREDITH PETER,  
*Chemist.*

HENRY ERNEST CURTIS,  
*Chemist.*

HARRISON GARMAN,  
*Entomologist and Botanist.*

CLARENCE WENTWORTH MATHEWS,  
*Horticulturist.*

EDWARD RHORER,  
*Stenographer.*

JOSEPH NELSON HARPER,  
*Superintendent of Field Experiments and Dairyman.*

## DEPARTMENTS.

---

The studies of the State College are distributed into seventeen Departments, each in charge of a responsible head, the heads constituting the Faculty. Chronologically the Departments are :

- I. History, Political Economy, and Metaphysics.
- II. Botany, Horticulture, and Agriculture.
- III. The English Language and Literature.
- IV. Mathematics.

## U. S. WEATHER BUREAU.

OBSERVER, D. H. HERNDON.

There has been established at the College by the U. S. Department of Agriculture a Station of the Weather Bureau, with first-class instrumental equipment, which is working in close connection with the College and Station. Students who are interested in the study of meteorology and kindred sciences will find at this station a rare chance for special investigation, as all students interested are welcome to such benefits as the Station affords.

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- I. History, Political Economy, and Metaphysics.
- II. Botany, Horticulture, and Agriculture.
- III. The English Language and Literature.
- IV. Military Science.
- V. Chemistry.
- VI. Mathematics and Astronomy.
- VII. Modern Languages.
- VIII. Greek and Latin.
- IX. The Academy.
- X. Pedagogy, or the Normal School.
- XI. Civil Engineering.
- XII. Mechanical and Electrical Engineering.
- XIII. Anatomy and Physiology.
- XIV. Geology.
- XV. Zoölogy.
- XVI. Physics.
- XVII. Entomology.



## ADMISSION.

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Applicants for admission to the Freshman Class in Science are examined on the following subjects :

1. Advanced English Grammar ; Composition ; Rhetoric and Synonyms.
2. Descriptive, Political, and Physical Geography.
3. The History of the United States ; General History, equivalent in amount to Anderson's General History.
4. Arithmetic ; Algebra through quadratic equations, as presented in Wentworth's Higher Algebra ; Plane Geometry, as presented in the first two books of Beman & Smith's Geometry.

Applicants for admission to the Freshman Class in Classics are examined on the same courses in English and Mathematics, and also on the following books or on their equivalents :

3. Smiley and Storke's Beginner's Latin Book ; Viri Romæ ; ten lives of Nepos ; five books of Cæsar ; Daniell's New Latin Composition.
4. White's Beginner's Greek Book ; Jacobs' Greek Reader ; five books of Xenophon's Anabasis.

The satisfactory completion of the course in the Academy entitles the student to admission into the Freshman Class without further examination. Students from "affiliated schools" who present certificates showing that they have completed a course of study equivalent to the course of the Academy will also be admitted without examination. All other applicants must, to be admitted, satisfy the conditions prescribed above.

## COURSES OF STUDY.

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### I. DEPARTMENT OF HISTORY, POLITICAL ECONOMY, AND METAPHYSICS.

PRESIDENT PATTERSON.

The course of instruction in this Department includes an outline of Ancient, Mediæval, and Modern History. Attention is given to the various forms of government, their characteristic features and points of difference, to the progress of civilization, the origin and development of parliamentary government, the rights and duties of citizenship.

In the period covered, Modern History and the History of England and the United States occupy the most prominent place.

Walker's Science of Wealth is made the basis of instruction in Political Economy. Students are, however, made familiar with the principles upon which rest the rival doctrines of Protection and Free Trade.

The study of Mental and Moral Philosophy extends through one year. Sir William Hamilton is used as the basis of instruction in Metaphysics, and Janet in Morals. Concurrently with recitations from these authorities, the pupil is made familiar with the principles upon which rival systems of philosophy and morals are based and the arguments by which they are maintained. Ancient and modern systems are thus brought under review, and the necessary data furnished upon which to ground intelligent opinions.

### II. DEPARTMENT OF BOTANY, HORTICULTURE, AND AGRICULTURE.

PROFESSOR MATHEWS.

This Department occupies rooms on the first floor of the Natural Science Building, including a general laboratory, a lecture room and advanced laboratory, and an instructor's office.

Each laboratory is suitably furnished with tables, water and gas fixtures, charts, etc., and the lecture room with opera chairs, a stereopticon, etc. The further equipment, both for elementary work and for the use of advanced students, is new and of the best quality, and includes an ample supply of compound and dissecting microscopes for the individual use of each student, several first-class microtomes, ovens, and sterilizing apparatus, together with delicate balances and other apparatus for the study of plant physiology.

Among other facilities for study, the Department possesses a greenhouse (85 x 20 feet), giving an opportunity for the continuous study of

living plants throughout the winter months and for experiment work in plant physiology.

The herbarium contains a nearly complete representation of the flora of Kentucky, with a considerable number of foreign exchanges. It is due primarily to the efforts of the late Dr. Robert Peter, who made a quite extensive collection of Kentucky plants about sixty years ago, and also exchanged specimens with the prominent botanists of that day, thus forming the nucleus of the present collection, which therefore possesses considerable historical value. Constant additions are now being made to the herbarium by collecting excursions over the state and by exchanges with other institutions.

The Department Library is receiving constant accessions of carefully selected books, and already contains the most important botanical and horticultural works of reference, and these, as well as the best current literature upon these subjects, are freely available to students during college hours.

For the study of horticulture and agriculture, many of the appliances already mentioned are again utilized, and in addition the very complete equipment of the Experiment Station incidentally affords superior opportunities for the instruction of students.

The Horticultural Department of the Station (which is also under the charge of the Professor of Botany and Horticulture) has an excellent forcing and greenhouse plant upon the college grounds, consisting of four glass houses of the most approved methods of construction, containing 4,000 feet of glass, in addition to hot-beds and cold frames outside. These houses are run to their full capacity through the winter months in the conduct of experiments upon the culture of lettuce, radishes, tomatoes, cauliflower, and other vegetables, and upon the various methods of plant propagation.

The extensive list of varieties of vegetables and fruits growing upon the Experiment Farm gives an opportunity for a comparative study of varieties rarely if ever found upon the ordinary farm.

The College campus contains a large number of ornamental trees and shrubs, and numerous varieties of annual and perennial flowering plants, and, with other public grounds in Lexington, affords ample facilities for the study of ornamental or landscape horticulture.

In the distinctively agricultural studies the operations of the farm department of the Experiment Station furnish an excellent opportunity for the study of the effects of various fertilizers, varieties of wheat, corn, and other field crops, and the many problems of dairying.

In order to give special attention to dairy experiments a building has recently been erected upon the Station Farm, and fully equipped with the most modern appliances for the care of milk and the manufacture of butter and cheese.

All these facilities for the experiment work of the Station, while primarily designed for that purpose, can not fail to be of the greatest value as object lessons in connection with the studies of pupils in agriculture.

The general subjects comprised within the scope of this department are subdivided as follows :

### I. ELEMENTARY BOTANY.

Required of all students of the Scientific, Normal, and Agricultural courses who have not completed a corresponding course in some preparatory school.

**SPRING TERM**—This course consists of a study of the elements of structural botany and plant physiology, with determination of a considerable number of species of the flowering plants. It corresponds to the work done in most of the high schools of the state, and if satisfactory evidence is presented, by examination or otherwise, that such a course has been completed before entering the College, a student will be admitted directly to the general botany of the Sophomore Class.

*Text-books and books of reference:* Gray's Lessons and Manual of Botany; Bailey's Lessons with Plants; Bergen's Elements of Botany.

### II. GENERAL BOTANY.

Required of all Sophomores in the Scientific, Normal, and Agricultural courses.

**FALL AND WINTER TERMS**—The work of the course comprises a general survey of the morphology and physiology of plants, and it is designed to give the student who goes no further with the subject a comprehensive view of the entire vegetable kingdom, while for the student who will continue his botanical study it is intended to afford a substantial basis for more exhaustive special studies. While it is accompanied with lectures and recitations, the laboratory method is the form of instruction principally used, and from the very beginning of his work the pupil is directed to the study of plants themselves, using the text-book as an aid to correct his mistakes and to enlarge his field of view. He is early instructed in the use of the compound and dissecting microscopes, and with their aid he begins in the Fall Term the study of the vegetable cell and its various modifications; and this study is followed by a series of lectures with demonstrations upon plant physiology, and later by a critical study of typical representatives of each branch of the vegetable kingdom.

*Text-books:* Bessey's Botany, supplemented by directions in the laboratory, and by numerous standard works of reference.

### III. SYSTEMATIC BOTANY.

Required of Sophomores who elect Geology, Zoölogy, Botany or Agriculture as major study.

**SPRING TERM**—The principal feature of this course is the taxonomy and classification of the ferns and flowering plants, with special reference to the more difficult groups of Compositæ, Gramineæ, Cyperaceæ,

etc. During the following summer vacation the student will be required to make a collection of specimens of flowering plants and ferns for the herbarium, a part of which will be utilized in his studies of the Junior year.

#### IV. ECONOMIC BOTANY AND PLANT HISTOLOGY.

Required of Juniors who elect Botany or Agriculture as major study.

FALL TERM—In Economic Botany, which is assigned for Tuesdays and Thursdays, a thorough study is made of selected families of plants, with regard to their characteristics, distribution, habitat, economic importance, etc. In Histology the student is given instruction and training in collodion, paraffine, and other methods of preparing vegetable tissues for microscopic study, accompanied and followed by a study of the slides so prepared.

#### V. ALGAE AND FUNGI.

Required of Juniors who elect Botany or Agriculture.

SPRING TERM—The course comprises lectures and laboratory work, the students in Agriculture giving special attention to injurious fungi. Each student is expected to collect a considerable amount of material during the next summer vacation.

#### VI. THESIS.

The first term of the Senior year is devoted to the study of some special subject, selected with reference to the taste and abilities of the student, as a preliminary to the preparation, during the winter and spring terms, of a Thesis for graduation.

#### VII. HORTICULTURE.

Required in the Agricultural Course. The work in this subject begins in January of the Junior year and extends through two terms. The time allotted to the subject is divided between lectures, recitations, and actual practice in horticultural operations, special prominence being given to the latter feature of the course.

In the lectures are discussed the principles underlying horticultural practices; the propagation of plants; the physiological considerations upon which are based the operations of budding, grafting, pruning, training, etc.; greenhouses, their construction, heating, and management; and vegetable, fruit, and landscape gardening. In connection with the lectures the work in the greenhouses and upon the college and experimental grounds is freely used for illustrative purposes, and occasional visits are made to the greenhouses, nurseries, market and fruit gardens, and the canning factory, all of which are well represented in or near Lexington.

In the practical part of his studies the pupil is not only taught the best methods of doing his work, but is encouraged to seek for the



principles that make such methods best. He performs for himself the various operations of seed testing and seed sowing; propagation by cutting, layering, division, etc.; budding, grafting, crossing, hybridizing, and other forms of horticultural practice.

In order to make this work of the highest value to the student, he is required throughout the course to make accurate observations and careful notes upon his progress, and upon the results of all these processes.

### VIII. GENERAL AGRICULTURE.

Required of Juniors in the Agricultural Course.

The subject is taught by means of text-books and lectures, and illustrated by the work of the farm, garden, and greenhouse, all of which are fully equipped. It involves a discussion of soils, their origin, character, and cultivation; draining and irrigation, fertilizers, farm economy, etc. The second term is occupied with the subject of breeds of stock, the principles of breeding and feeding, and milk, as to its production, and the manufacture of the various dairy products.

For the study of stock-breeding and kindred subjects the location of the College is exceptionally favorable, being situated in the center of the far-famed Bluegrass region of Kentucky, with its numerous herds of high-bred cattle and horses. In the entire work of this course material aid is rendered the student by the important experiments of the State Experiment Station, which are at all times available for observation and study.

### THE COURSE IN AGRICULTURE.

The distinctive feature of this course is the instruction in those branches of study which bear the most direct and practical relation to agricultural pursuits. It includes as subjects of primary importance the study of General and Agricultural Chemistry, General Zoölogy and Entomology, Botany, Horticulture, Geology, and General Agriculture.

In addition to these subjects, the student devotes considerable time to the work of other departments, including a year each in English and Mathematics, courses in Drawing, French and German, Physiology, Physics, and Political Economy.

### THE SHORT (WINTER) COURSE IN AGRICULTURE.

In this course an opportunity has recently been provided for young men, who desire to excel in their chosen occupation of farming, to secure an elementary knowledge of those scientific principles which lie at the foundation of all success in agriculture. In order that such a course of study may not interfere with the work of the busy season upon Kentucky farms, it will begin in January immediately after the Christmas recess, and will continue for ten weeks. Its aim is to give to ambitious young farmers accurate and practical information on such impor-

tant topics as manures and commercial fertilizers ; agricultural chemistry ; soils, and their origin ; plant life on the farm ; vegetable and fruit growing ; diseases of plants ; injurious insects ; the principles of veterinary science, and the treatment of the simpler ailments of farm animals ; care and feeding of live stock ; the dairy cow ; milk, and the manufacture of butter and cheese.

In such subjects as will permit it actual practice will be given in the manipulation of material and appliances of study, such as the care of milk ; practical butter-making ; spraying plants for injurious insects and diseases ; and, in horticulture, the practices of seed-sowing, pruning and training, grafting, etc.

This course affords to young men on farms, whose time and means are limited, an opportunity to utilize the winter months to the highest possible advantage by fitting themselves more thoroughly for their life-work.

No examinations are required for admission to this course, the only requirements being that the applicant must be of good moral character, must have had a good common school education, and be at least sixteen years of age, or preferably somewhat older, to fully profit by this course.

To residents of Kentucky instruction in this course will be free, the only expenses being the cost of a few books and other necessary incidentals, together with board and room and other personal expenses. Board and a room can be secured at prices varying from three to five dollars per week, so that the total expenses of a student during his entire eight weeks' stay need not exceed from thirty-five to fifty dollars.

Further information regarding this course may be obtained by addressing President Patterson or Professor Mathews at the College.

### III. DEPARTMENT OF ENGLISH.

PROFESSOR SHACKLEFORD.

#### FRESHMAN CLASS.

**FIRST TERM** — English Prose and Poetry ; interpretations of masterpieces of English Prose and Poetry ; written essays, read in class and corrected.

**SECOND TERM** — Studies in English Literature.

Each pupil is required to commit to memory and recite in class selections from the great English poets and prose writers, including parts of Shakespeare's *Julius Cæsar* and the *Merchant of Venice*; Bacon's *Essays on Studies and Friendship*; Milton's *L'Allegro* and *Il Penseroso* and extracts from the *Areopagitica*; Bunyan's *Golden City*; Dryden's *Alexander's Feast*; Gray's *Elegy*; parts of Goldsmith's *Deserted Village*; passages from Burke's *Speech on the Spirit of Liberty in the American Colonies*; Burns' *Cotter's Saturday Night*; Wordsworth's *Intimations of Immortality*; Coleridge's *Hymn to Mont Blanc*; the closing passages of Webster's speech in reply to Hayne; Byron's *Prisoner of Chillon*; Shelley's *Ode to the Skylark*; Bryant's *Thanatopsis*; Emerson's *Essay on Compensation*; Longfellow's *Keramos*; Holmes' *Deacon's Masterpiece*; Tennyson's *Ulysses*; De Finibus, by Thackeray; *The Vision of Sir Launfal*, by Lowell.

*Text-book*: Swinton's *Studies in English Literature*.

**SOPHOMORE CLASS.**

**FIRST TERM** — History of English Literature ; class reading from Bacon, Burke, Milton, Shakespeare, and other great English writers.

*Text-books:* Pancoast's Representative English Literature and Hudson's Annotated English Classics.

**SECOND TERM** — Advanced Rhetoric ; lectures on the Elements of Criticism.

*Text-books:* Genung's Rhetoric ; Minto's Manual of English Prose Literature.

**JUNIOR CLASS.**

**FIRST TERM** — The Science of Logic ; lectures on Pure Logic, in which Stoicheiology and Methodology are explained and illustrated ; explanations and illustrations of the analytics of Aristotle and the New Analytic of Sir Wm. Hamilton ; exercises in Figure, Mood, and Reduction ; lectures on Fallacies and the Sources of Error ; lectures on Inductive and Analogical Reasoning ; lectures on Evidence.

*Text-book:* Jevons' Logic.

**SECOND TERM** — Anglo-Saxon and Early English.

*Text-book:* Corson's Anglo-Saxon and Early English.

**IV. DEPARTMENT OF MILITARY SCIENCE.****MAJOR JONES.**

Instruction in this department is both practical and theoretical.

The practical course embraces the U. S. Drill Regulation for Infantry, including the schools of the soldier, company, and battalion in close and extended order ; ceremonies ; so much of the Artillery Drill Regulations as pertains to the manual of the piece and mechanical maneuvers ; signaling with flag and heliograph ; guard duty and minor tactics.

Theoretical instruction embraces recitations in U. S. Drill Regulations for Infantry and Artillery ; instruction in the preparation of reports and returns pertaining to a company ; lectures on the organization and administration of the United States Army, and general principles governing in the Art of War.

All students are required to take this course, and proficiency in it is as requisite for graduation as in any other Department.

Students must provide themselves with the regulation uniform of cadet gray cloth, which can be purchased for about fifteen dollars. No other outer dress, excepting an overcoat, shall be worn on any occasion. From this rule students may, however, be exempt when laboring in the field or in the shops.

## V. DEPARTMENT OF CHEMISTRY.

PROFESSOR KASTLE.

The Chemical Department dates from the establishment of the institution. For many years it was under the direction of Dr. Robert Peter, who by his labors in analytical chemistry has probably done more than any other man to develop the abundant mineral resources of the State. The Department remained in the hands of Dr. Peter until 1887, when he resigned. Dr. E. A. Von Schweinitz was then appointed to the vacancy. He held the position during the collegiate year 1887-1888, whereupon the present incumbent was appointed. For many years the chemical laboratories and lecture-room occupied the eastern part of the main College building. In September, 1880, however, the Experiment Station building having been completed, the apparatus and equipment were moved from the laboratories in the main building to more suitable and beautiful rooms on the second floor of the Experiment Station building. The lecture-room and the laboratories, qualitative and quantitative, of the Chemical Department are exceedingly well adapted to their purpose, and are among the best constructed and most handsomely furnished of the rooms in the College. The qualitative laboratory contains three very large working tables, each of which can easily accommodate ten students. The quantitative laboratory is also well equipped with tables, hoods, water, gas, electricity, etc., and has desk room for at least fourteen students in all. The lecture-room is well lighted and heated and beautifully furnished and commodious, having a seating capacity of about seventy-five. Besides the laboratories and lecture-room, there are several other small rooms on the same floor set aside for the use of the Chemical Department:—an instructor's office, a balance-room, and a store-room.

### APPARATUS.

The Department is well supplied with the commoner forms of chemical apparatus and chemicals. In addition to these it owns several of the more expensive pieces of apparatus, such as several exceedingly delicate balances for analytical work; a grand model Bunsen & Kirchoff spectroscope; platinum apparatus; a complete outfit for electro-plating; vapor density apparatus; a glass model ice-machine, etc. These of course will be added to from time to time as the needs of the Department demand and the resources of the institution permit; as it is now, however, the equipment is such as to readily enable the student to obtain at first hand a good working knowledge of chemical science.

### COURSE IN CHEMISTRY.

The Chemical Course is one of several scientific courses offered by the College. It was first offered in 1894 with the view of preparing the student for life work in Chemistry, and also with the view of fitting him



for the study of Medicine and kindred professions. To the accomplishment of this purpose the following course of study, extending over a period of four years, has been adopted :

### STUDIES REQUIRED.

The first year is devoted to the study of English, German, Physiology, Free Hand Drawing, and Mathematics, including Plane Geometry, Trigonometry, and Algebra. The second year to German, Physics, Botany, Chemistry, and Mathematics, including Solid and Analytical Geometry and Calculus. The third year to Theoretical Chemistry, English, Calculus, French, and laboratory work on the Chemistry of the Metals and on Qualitative Analysis. The fourth year to Qualitative Analysis, Organic Chemistry, Chemical Reading on advanced topics, and to Chemical Research, History and Political Economy, Logic and Mental Philosophy.

For further information as to requirements, the Schedule may be consulted, page 47.

### THE TRAINING IN CHEMISTRY PROPER.

The study of Chemistry proper, as outlined in the above, is sufficient in its scope to bring the student into close contact with the great fundamental truths of the Science, and to make him enthusiastic and capable in his profession.

The course in General Chemistry, extending through the second and third terms of the second year, consists of lectures and recitations five times weekly on the non-metals and their compounds and the simpler laws of chemical change. The lectures are abundantly illustrated by suitable and instructive experiments; the laboratory work is carefully directed, and the student receives every possible encouragement to do excellent work.

In the third year the study of Chemistry is resumed with laboratory work and Theoretical Chemistry. The study of Theoretical Chemistry, consisting of lectures, recitations, and readings five times weekly throughout the year, is intended to acquaint the student with the greatest generalizations and theories of modern chemistry and their historical development. In this connection about fifty lectures are delivered annually upon the following general topics: Ten upon the Atomic Theory, its development, and the methods at present used in the determination of atomic weights; fifteen upon the Compounds of Carbon, Isomerism and Structural Formulæ; ten upon the History of Chemistry; five upon the Periodic Law; five upon the Spectroscope, Spectrum Analysis, and the Chemistry of the Heavenly Bodies; five upon the more important current chemical investigations.

By way of supplementing the work of the lecturer, students pursuing this course will be required to do a certain, rather liberal, amount of general reading upon the matter treated of in the lectures or



upon such other topics as may be assigned by the instructor. For this purpose the nucleus of a chemical library has been formed, which may be freely consulted by any or all students in the College, and the leading chemical journals of this and other countries will there be kept on file. The broadening influences of such a course can scarcely be overestimated, and students who complete it satisfactorily will find themselves, in some measure at least, abreast of the highest and best chemical thought of our time.

The laboratory work during the first term of the third year is devoted to the study of the metals, and their more important compounds, and qualitative analysis. This work is intended to supplement the work of the first year upon the metals, and also to familiarize the student more fully with the commoner methods of chemical manipulation and practice. The laboratory work of the first term will be followed up during the second and third with laboratory work in quantitative analysis, by means of which the student learns the value of precise and accurate work, and the constancy and definite character of chemical reactions. The chemical work of the last year will consist of such special work as the student may elect to pursue, together with the preparation of a thesis embodying the results of this special work. The object of such an arrangement is to perfect him in that particular branch of the science for which he shows a liking or a particular talent. In this connection it may be well to state that facilities are offered for special work along the following lines: Pure Chemistry, Organic Chemistry, Agricultural Chemistry, general analytical work, and special analytical work on fertilizers, iron and steel and fuels.

#### CHEMISTRY REQUIRED IN OTHER COURSES.

Instruction in chemistry in other courses of study, such as the Scientific, Classical, etc., is designed to meet their special needs in this direction.

In the Classical Course the study of this science extends over five months, five times weekly, and is intended simply to introduce the student to the subject by way of general education.

In the Scientific Course the work extends over ten months. A portion of this time is devoted to the study of the metals and qualitative analysis by means of laboratory work. In the course of Mechanical Engineering the instruction is adapted as completely as possible to the needs of the students in this department. Instruction in chemistry in this course extends over a period of two terms, five months of which are devoted to the study of the non-metals and their compounds; five to the chemistry of the metals with special reference to the properties which render them useful to the mechanical engineer, and also with reference to their mode of occurrence in nature and the methods of obtaining them from the ores.

For students in Civil Engineering a course in chemistry has been provided as follow: General chemistry, one term; laboratory work on the metals, one term; and quantitative analysis, one term.

For the benefit of students of Agriculture a special course in Agricultural Chemistry has been arranged, the general aim of which is to acquaint the student with the chemistry of those elements which enter into the composition of plants, and which are essential to their life and growth. A study of the composition of the soil, air, and water, and their several relations to the plant as sources of plant food, forms a large and important part of this work. Also the chemistry of tillage, irrigation, and rotation of crops, and the composition and value of commercial fertilizers and manures.

The instruction in Chemistry is also adapted as fully as possible to the needs of students in Biology. Instruction in this branch extends over two terms, five times weekly. The first half of the time is devoted to the study of Elementary Chemistry; this is followed by laboratory work in the afternoon upon those elements which are regarded as essential to living things, animal and vegetable.

## VI. DEPARTMENT OF MATHEMATICS AND ASTRONOMY.

PROFESSOR WHITE.

A thorough knowledge of Arithmetic, of Algebra through quadratic equations as presented in Wentworth's Higher Algebra, and of Plane Geometry as presented in books first and second of Beman and Smith's Geometry, is required for admission to the Freshman Class in Mathematics.

### FRESHMAN CLASS.

FIRST TERM — Beman and Smith's Geometry, Books III, IV, V.

SECOND TERM — Wentworth's Plane Trigonometry.

THIRD TERM — Wentworth's Higher Algebra, from Chap. XXII.

### SOPHOMORE CLASS.

FIRST TERM — Beman and Smith's Solid Geometry.

SECOND TERM — Bowser's Analytical Geometry begun.

THIRD TERM — Bowser's Analytical Geometry completed; Taylor's Calculus begun.

### JUNIOR CLASS.

FIRST TERM — Taylor's Calculus completed.

### SENIOR CLASS.

FIRST TERM — Spherical Trigonometry and Astronomy.

SECOND TERM — Young's Astronomy begun.

THIRD TERM — Young's Astronomy completed.

## VII. DEPARTMENT OF MODERN LANGUAGES.

PROFESSOR WERNICKE.

## German.

The courses offered in German are :

G<sub>1</sub> : Three consecutive terms in elementary German.

G<sub>s</sub> : An introduction to scientific prose (one term).

G<sub>2</sub> : Continuation of G<sub>1</sub>, involving an introduction to German literature and practice in composition (two terms).

G<sub>3</sub> : Advanced composition. Introduction to various styles.

G<sub>h</sub> : History of German literature based on the national history.

G<sub>c</sub> : Advanced conversational exercises (one term).

G<sub>l</sub> : Study of some author or branch of literature (Schiller, Lessing, etc.).

G<sub>ph</sub> : Introduction to the philology of Germanic languages.

All classical and scientific students take G<sub>1</sub>, G<sub>s</sub>, and G<sub>2</sub>, which are given annually. Candidates for the Master's degree, if German be one of their minor studies, will be assigned G<sub>3</sub>, G<sub>h</sub> or G<sub>c</sub>; if German be their only minor study, additional work may be required. Candidates for the Master's degree who select German as their major study will take two of the courses G<sub>3</sub>, G<sub>h</sub>, G<sub>c</sub>, G<sub>l</sub>, and G<sub>ph</sub>; and present a thesis written in German (about 4,000 words). Courses G<sub>l</sub> and G<sub>ph</sub> are primarily designed for this class of students, and will consist of lectures and weekly reports on individual work.

## Romanic Languages.

This Department offers :

F<sub>1</sub> : Three consecutive terms in elementary French, taking the student through the main irregular verbs, and leading to a fair reading knowledge. Prerequisite : Some experience in the study of languages, such as is acquired in G<sub>1</sub> *plus* G<sub>2</sub>, or in a two or three years' course in Latin.

F<sub>2</sub> : Continuation of F<sub>1</sub>. Introduction to French literature. Composition (three terms).

F<sub>3</sub> : Advanced Composition (one term).

F<sub>h</sub> : History of French literature, consisting of lectures and weekly reports on collateral reading (two terms).

F<sub>c</sub> : Advanced conversational exercises (one term).

S<sub>1</sub> : Elementary Spanish (two terms).

S<sub>2</sub> : Advanced Spanish (one term).

I<sub>1</sub> : Elementary Italian.

I<sub>2</sub> : Advanced Italian.

All classical and scientific students take F<sub>1</sub>, the former also F<sub>2</sub>. Candidates for the degree of M. S., if French be one of their minor studies, will be assigned F<sub>2</sub>; if French be their only minor study, further work may be required. Candidates for the degree of M. A. will take

Fh if French be one of their minor studies; F3 *plus* Fh if it be their only minor. In addition thereto, those who select French as their major study will take either Fc, or S1 *plus* S2, or I1, and will present a thesis written in French (about 4,000 words).

The text-books in this Department are frequently changed, and a large portion of the instruction in all classes is independent of the manual adopted. Texts recently used are :

G1: Harris' German Lessons; Super's and Harris' Readers.

Gs: Hodges' Scientific German; Gore's Science Reader.

G2: Hoffmann's Historische Erzählungen; Freytag's Luther; Schiller's Tell, Maria Stuart, etc.; Scheffel's Trompeter; Harris' Composition.

G3: Lessing's Nathan, Minna von Barnhelm, Laokoon, etc.

Gh: Bernhardt's Litteraturgeschichte.

Gl: Klenze's Gedichte.

F1: Chardenal's Complete Course; Muzzarelli's Academic Courses I. and II.; Verne's Michael Strogoff; Tour du Monde; Van Daell's Introduction to French Authors; Fontane's Napoléon.

F2: Loti's Pêcheur d'Islande; Lacombe's Petite Histoire; Rostand's Cyrano de Bergerac; Whitney's Grammar, Part II.

F3: Grandgent's Composition.

Fh: Demogeot's and Aubert's Littérature Française.

S1: Edgren's Grammar; Matzke's Reader.

S2: Same, Knapp's Readings.

I1: Grandgent's Grammar; Bowen's Reader.

I2: Goldoni's Comedies; Pellico's Prigioni.

## VIII. DEPARTMENT OF GREEK AND LATIN.

PROFESSOR NEVILLE, ASSISTANT PROFESSOR BLANTON.

### Latin.

#### PREPARATORY.

*First Session*—Smiley and Storke's Beginner's Latin Book, the study involving a daily exercise in inflection and in translation from and into Latin on the blackboard; Gradatin (194 Latin Stories), or Viri Romæ, or D'Ooge's Easy Latin.

*Second Session*—Ten lives of Nepos; five books of Cæsar; exercises in writing Latin (Daniell's New Latin Composition).

#### FRESHMAN CLASS.

Six orations of Cicero; selections from Ovid, with instruction in scanning; the first and twenty-first books of Livy.

#### SOPHOMORE CLASS.

Six books of Virgil; Cicero De Senectute; the Captives of Plantus or the Phormio of Terence; Sallust's Conspiracy of Catiline.

#### JUNIOR CLASS.

Horace (except a part of the Epodes and most of the Satires), with the scanning of the more common metres; letters of Cicero and of Pliny; the first half of Bradley's Arnold's Latin Prose Composition.

**SENIOR CLASS.**

Tacitus—the Germania and the Agricola; the third, seventh, eighth, and tenth Satires of Juvenal; or, instead of the seventh and eighth, an essay of Seneca's; poems of Catullus; the second half of Arnold's Composition; Wilkins' Sketch of Latin Literature.

**Greek.****PREPARATORY.**

*First Session*—White's Beginner's Greek Book, with a daily exercise in inflexion and in translation from and into Greek on the blackboard.

*Second Session*—Jacobs' Greek Reader; five books of the Anabasis.

**FRESHMAN CLASS.**

Six books of the Iliad; selections from Herodotus; Plato's Apology and Crito; exercises in Greek syntax.

**SOPHOMORE CLASS.**

Four orations of Lysias; four of Demosthenes; dialogues of Lucian; exercises in syntax and prose composition.

**JUNIOR CLASS.**

Two books of Thucydides; poems of Theocritus, Bion, and Moschus.

**SENIOR CLASS.**

Three dramas (Prometheus, Medea, Œdipus Rex); Jebb's Sketch of Greek Literature.

**IX. THE ACADEMY.**

This will be described after the Collegiate Departments.

**X. THE NORMAL SCHOOL.****PROFESSOR ROARK.**

Although organized as a Department of the College co-ordinate with the other departments, yet the Department of Pedagogy is more properly a school in itself, made so by the necessities of the Public School system of the State. Therefore, in addition to offering full work in Pedagogy (Educational Psychology and its applications in School Economy and Educational Methods), this Department also provides academic instruction for teachers who desire to fit themselves for higher grades of work. In administering the Department, the real needs and limitations of the average Public School teacher are kept constantly in view, and the elevation of the common schools of the State is the basic principle of the work.

The teacher must be possessed of three things in addition to an upright and sterling character and a healthy body. These three things



are : (1) An adequate knowledge of what he proposes to teach ; (2) skill in teaching—knowledge of how to teach ; (3) some broad and liberal culture wherewith to illuminate his work and increase its value. These three things it is the business of the Teacher's Training School to give.

1. *An adequate knowledge of the branches to be taught.*—The giving of this knowledge is academic work primarily. But this academic instruction should be given with the fact constantly in view that “The student will teach as he is taught, rather than as he is taught to teach.” The instruction in Arithmetic, Physiology, Grammar, etc., is designed to illustrate to the teacher-pupils in the various classes the latest and best methods of teaching these subjects.

2. *Skill in teaching—the knowledge how to teach.*—This can be acquired best by successful practice, but there is a science as well as an art of teaching. Teaching must not be wholly empirical. There are fundamental principles upon which all true teaching rests, and the purpose here is to fix these principles in the minds of the pupils. It is the carrying out of these principles, their successful and practical application, that lifts the work of the teacher to the dignity of a profession. It is the direct inculcation of these principles and the practical drill in their application that distinguish the Teacher's Training School from all other schools. The Teacher's Training School should work in the faith that teaching is the highest profession, and the atmosphere of such a school should be filled with the professional spirit.

Since the principles of the science of education rest on the activities and processes of the growing mind, special attention is given to Educational Psychology. A study of this subject is followed by a thorough drill in School Management and the most rational and effective Educational Methods. The principles of management and methods are constantly presented in their relations to the principles of Psychology. Finally, the student is introduced to the history of his profession abroad and at home. The course in Pedagogy proper, then, consists of Educational Psychology, Management in Education, Method in Education, and the History of Education.

3. *Some broad and liberal culture.*—He who knows only the subjects he has to teach, and something of how to teach them, is not yet a teacher. He must know as much more as he can ; must have some knowledge of subjects higher than the branches he will be called on to teach, and different from them. Human knowledge is so interrelated that otherwise he can not have the copiousness of illustration necessary to make the simplest and commonest facts as clear as they should be. The *relations* of facts must be taught—hence the growing need of liberal culture, a widened horizon for the teacher.

The courses offered in this department are believed to be such as will meet the requirements above set forth, and also satisfy the practical needs of the educational system of the State.

## COURSES IN PEDAGOGY.

The *Professional Course* leading to the degree of B. Ped. (Bachelor of Pedagogy) is intended to cultivate the professional spirit, to give a general education, and to fully equip those who complete it for teaching successfully in any grade of public school, or in any academy or college.

The *State Diploma Course* is arranged to enable those teachers who have the age (24 years), and experience (2 years in this State), required by the school law, and who already hold a State certificate, or are otherwise properly qualified for taking the course, to prepare by one year's work to pass successfully the examination for State Diploma.

The *State Certificate Course* is open to those who have the legal qualifications of age (21 years), and experience (2 years), and who hold first class, or high grade second class, county certificates, or are otherwise prepared to undertake the work of this course. The aim is to fit such students to take successfully the examination for State certificate. The time required is five months, *beginning in mid-winter*.

The *County Certificate Course* is designed to prepare teachers for the county schools of the State. Preparation for properly passing the county examination may be made in one year or in five months, according to the previous preparation of the matriculate. Since by far the larger number of those who take this course enter it after the Holidays, the second term is divided into two terms of ten weeks each, and thus teachers can review all the common branches during the second half year.

It will be seen upon reference to the schedule, page 56, that *Drill Work in Forensics*, i. e., in essay writing, speaking, and debating, is an important feature of the Normal School. Ability to express fluently and correctly is of the utmost value to the teacher, and can be gained only by constant practice. The Forensic Drills will occur once a week, with special exercises once or twice each term.

The *Pedagogy Drill* will occur daily during the last quarter of each year, and is intended to give valuable training in the Science of Teaching.

The *Preparatory Course* is provided for in the Academy, and fits the student to enter the full Professional Course of the Normal Department.

*Text-books:* In the Professional Course the text-books are those used in the same branches in the other four years' courses of the College. In the work in Pedagogy the books used are Roark's Psychology in Education, Brooks' Normal Methods, White's and Baldwin's School Management, and Painter's and Williams' History of Education. In the State Diploma and State Certificate courses, besides these books, Kellogg's English Literature also is used. In the County Certificate Course the books used are Ray's Arithmetics, Wentworth's Higher Algebra, Peterman's Civil Government, Chittenden's Elements of English Composition, Butler's Geography, Holbrook's Complete Grammar, Eggleston's History of the United States, Kinkade's History of Kentucky, Martin's Human Body (smaller edition), and Roberts' Rules of Order.

## APPOINTMENTS.

Each legislative district of the State is entitled to send to the Normal School every year four properly appointed students, of either sex.

Appointments are made by the County Superintendents (see page 92, Section 15, School Law of 1894,) between the first day of July and the thirty-first day of December. Appointments should be certified to the President of the State College as soon as they are made. Appointees secure all the advantages indicated on page 92. They do *not* receive mileage unless they remain in school the full collegiate year.

Appointments to the Normal School are good for *one* year. Those who are ready to enter the Freshman Class of the full four years' Professional Course should see that their appointments are made for the *College* and not for the Normal School. Appointments made for that course as a college course are good for four years.

#### CALENDAR.

The First Term opens September 11, 1899.

The Second Term opens January 2, 1900.

The Third Term opens March 19, 1900.

Students should enter as early in the term as possible.

### XI. DEPARTMENT OF CIVIL ENGINEERING.

PROFESSOR BROOKS.

The course in Civil Engineering is so planned as to acquaint the students with those subjects the knowledge of which is necessary to enable the civil engineer to develop himself into a skilled practitioner of his profession in any of its several branches. So far as is possible, the importance of each subject taught is illustrated by its application to some work similar to that which is met with in actual practice. An effort is made to render the course valuable, not only for its professional uses, but also from an educational standpoint; therefore, while the student is learning each subject both theoretically and practically, the training of his mind as well as the needs of his profession is kept in view. In addition to the purely technical matters included in the course, provision is made for the study of English, History, and Political Economy.

#### EQUIPMENT.

The Department of Civil Engineering occupies the second floor of Mechanical Hall, which contains an office, and recitation and drawing-rooms for the accommodation of classes of twenty-five students. The drawing-room is equipped with tables, boards, T-squares, drawing paper, and all the larger and more expensive drawing instruments, which are at the disposal of all students. Every one that takes this course has access to, and is required to work in, the various shops described under the head of Mechanical Engineering. The surveying instruments belonging to this Department are of the highest grades of the various makers, and among them are included five transits—one each by Buff & Berger, Heller & Brightly, Keuffel & Esser, Mahn, and Ware; three

levels, by Gurley, Brandis, and Seelig & Kandler ; a compass by Gurley ; a plane-table by Keuffel & Esser, and a solar instrument by Saegmüller, together with level and stadia rods, tapes, and other minor accessories. The library for the use of students in engineering contains a well-selected supply of standard literature and periodicals pertaining especially to Civil Engineering.

The technical studies in the Course of Civil Engineering fall under the heads of Shop-Work, Drawing, Surveying, Construction, Applied Mechanics, Bridge and Machine Design, and Sanitary Engineering.

### SHOP-WORK.

During the first two terms of the Freshman year, students in this course are instructed in the use of wood-working tools and in the theory and practice of pattern-making. In the second term of the Sophomore year, by practice in the forge shop and in the foundry, the student becomes familiar with the conduct of metals under the action of heat.

*Text-book :* Goss' Bench Work in Wood.

### DRAWING.

The work in drawing is begun in the first term of the Freshman year, and consists of freehand sketching from models, engineering structures, and from drawings, and in practice in the use of drafting instruments. In the Sophomore year the time is occupied in mapping, with exercises in topography, and especial attention is given to the rapid and accurate formation of Roman and other appropriate styles of letters. In the second term, four hours a week are devoted to the solution of problems in Descriptive Geometry. During the winter of the Junior year a topographic map is plotted from notes of a survey made by the class during the autumn. Such a map made by the present Junior class embraces the whole of the College campus of about fifty-two acres, and was plotted on a scale of sixty feet to an inch. A topographic map of railroad location, with cross sections and profile, is completed in the second term, and graphic analyses of framed structures are made during the year. In the Senior year the work in drawing consists of problems in stereotomy and of construction details.

*Text-books :* Woolf's Elementary Course in Descriptive Geometry ; Sherman's Theory and Practice of Lettering ; Siebert and Biggin's Stone Cutting.

### SURVEYING.

The course in Surveying is begun in the second term of the Sophomore year, with the study of the text-book on the theory of plane surveying, supplemented by ample practice in the solution of numerical examples. This is followed by daily field practice in the use and adjustment of surveying instruments, with exercises in leveling, determination of inaccessible distances, and in farm surveys. In the first



term of the Junior year, a topographic survey of a tract of land adjacent to the College property is made, based on a system of accurate triangulation. In the second term the theory of railroad surveying is studied, especial attention being given to spirals and other modern features of railroad practice. A line of railroad is run and cross-sectioned, and an estimate made of the cost of construction. The study of Geodesy is taken up in the Senior year, embracing the theory of adjustment of a system of triangulation and the methods of determining latitude, longitude, and azimuth. The State College system of triangulation has been begun and will be yearly perfected and extended by the Senior classes.

*Text-books:* Merriman and Brooks' Hand-book for Surveyors; Brooks' Street Railway Construction; Godwin's Railroad Engineer's Field Book; Merriman's Geodetic Surveying.

### CONSTRUCTION.

The methods of Construction are taught by lectures on limes, cements, wood, steel and other building material; on principles of foundations on land and under water; on masonry walls and dams; on roads, railroads, and street paving; on the theory and erection of arches; on tunnelling, and on the construction of high steel buildings. The lectures include descriptions and sketches of notable existing structures, and short excursions will be arranged for the class as often as possible. The latest methods of conducting tests of cement, iron, steel, wood, brick, and other material are practiced by each student in the well-equipped laboratory belonging to the College.

### APPLIED MECHANICS.

The work in applied mechanics extends over the Junior and Senior years, and includes the theory of the strength and elasticity of beams, columns, and shafts; of stresses in framed structures and arches; of the theory of dynamos and steam engines and its application to pumping and hoisting machinery, and to locomotives.

*Text-books:* Merriman's Mechanics of Materials; Unwin's Elements of Machine Design; Merriman and Jacoby's Roofs and Bridges, Parts I. and II.; Holmes' Steam Engine; Houston and Konnelly's Electro-Dynamic Machinery; Barr's Pumping Machinery; Bowser's Analytical Mechanics.

### BRIDGE DESIGN.

The course in Roofs and Bridges is begun in the first term of the Junior year and continues through two years. The theory of computation of stresses by both analytical and graphic methods is thoroughly taught from the text-book and by numerous numerical examples. At the beginning of the Senior year the design of bridges is begun, and the method of instruction is to proceed from the simple to the complex. The outline and details of existing structures are examined, and the student becomes familiar with drafting-office methods by constant reference to working drawings.

*Text-book:* Merriman and Jacoby's Roofs and Bridges, Part III.



### SANITARY ENGINEERING.

The work in Hydraulics includes the study of the flow of water through orifices, pipes, and large channels; the theory and tests of water motors and the measurement of power. In Sanitary Engineering the course comprises the consideration of the separate and combined systems of sewerage, the methods of sewage disposal, and the collection, purification, and distribution of a system of water supply.

*Text-books* : Merriman's Hydraulics; Folwell's Sewerage.

## XII. DEPARTMENT OF MECHANICAL AND ELECTRICAL ENGINEERING.

PROFESSOR ANDERSON, ASSISTANTS STURDEVANT AND FAIG.

### EQUIPMENT AND FACILITIES.

This department was organized August, 1891, and is now one of the most completely equipped in the College. Mechanical Hall contains a floor area of about 20,000 square feet, is constructed of stone and pressed brick, and is well furnished with modern conveniences for work in Mechanical and Electrical Engineering. The building contains three recitation-rooms, two drawing-rooms, three offices, a wood and pattern shop, two boiler-rooms, wash-room, tool-room, engine-room, two machine-shops, blacksmith shop, foundry, and two large rooms devoted to experimental engineering. A two-story brick building is well equipped for work in photometry and magnetic measurements. The building is isolated, so that absolute work may be carried on. A first-class technical library is at the disposal of all students in Engineering. The equipment of the different rooms is briefly described below :

The drawing-rooms contain drawing-tables, drawing-boards, curves, scales, T-squares, and other special drawing apparatus, to accommodate one hundred students.

The engine-room contains a 10-inch by 24-inch Hamilton-Corliss non-condensing engine, which supplies the motive power for all the work-shops.

The wood-shop contains twenty benches, each with a complete set of wood-working tools, twenty-three wood-turning lathes, each with a complete set of turning chisels, band-sawing machine, universal wood-worker, wood-trimmer, hand mortiser, fret saw, double circular saw, and grindstone.

The foundry contains a 30-inch cupola furnace, with a capacity of a ton of metal per hour, a brass furnace, twelve complete sets of moulders' tools, twelve benches; also ladles, clamps, core-room, core-oven, pattern-rack, and the tools used in a practical foundry.

The blacksmith shop is equipped with eighteen forges. The down draft system is used. Each forge is furnished with an excellent set of

blacksmith tools. A power hammer is available for heavy iron or steel forging.

The forge shop represents the best modern practice.

The machine-shop contains six lathes, one milling machine, one self-feed drill, one hand-feed drill, one planer, one shaper, one tool-grinder, one dry emery grinder, one wet emery grinder, one universal grinding machine, two sensitive drills, and twelve iron vises and benches for vise work in metal.

The tool-room is equipped with a fine assortment of superior tools for work in iron, steel, brass, and wood, and contains such stock and supplies as may be used in constructions in the mechanical laboratories named above.

The wash-room contains lockers for one hundred students, and is supplied with marble basins.

The boiler-houses contain, respectively, a fifty-one horse-power Babcock and Wilcox water-tube boiler, a Dean Bros.' No. 3 steam pump, and a fifty-five horse-power tubular boiler, and a Davidson No. 3 steam pump.

The Experimental Laboratory is the best equipped in the South, and besides being well supplied with steam engine indicators, planimeters, steam-gauges, pyrometers, reducing motions, scales for measuring, micrometer and vernier calipers, thermometers, calorimeters, sieves, cement samplers, scales for weighing, extensometers, water-meters, etc., it contains a thirty-five horse-power Westinghouse compound engine, a forty horse-power Houston, Stanwood & Gamble cross compound throttling engine, a twenty-five horse-power automatic cut-off engine, a ten horse-power Corliss engine, a thirty-five horse-power Buffalo automatic cut-off engine, a ten kilo-watt Crocker-Wheeler dynamo, an eight and a half kilo-watt Edison dynamo, a nine kilo-watt General Electric Company multipolar dynamo, a three and a half kilo-watt electric motor, a three fourths kilo-watt electric motor, a Bracket-cradle dynamometer, portable voltmeters and ammeters for continuous and alternating currents, wattmeters, photometers, galvanometers, instruments for absolute measurement of E. M. F. resistance and current, a Wood thirty-three kilo-watt alternator, a switchboard equipped with the most modern instruments, resistance boxes, and many instruments for refined investigation.

The Laboratory also contains a number of friction brakes, a Flather hydraulic dynamometer, a 1,000-pound United States standard cement testing machine, and a 100,000-pound Riehle testing machine.

A double engine of fifty horse-power and an automatic cut-off engine (Atlas) have recently been added.

The equipment of the Laboratory is such that many problems relative to Steam and Electrical Engineering may be discussed very comprehensively.

### COURSE OF STUDY.

The training given in this course, both practical and theoretical, is intended to prepare young men for positions of responsibility and trust in mechanical engineering work. The practical work extends over a period of two years, and includes the most important principles and operations in bench-work in wood, wood-turning, pattern-making, foundry work, iron and steel forging, and hand and machine work in metal.

The theoretical work during the first two years consists of a thorough training in English, Chemistry, Mathematics, Physics, and Drawing, and during the last two years the fundamental principles of boiler, machine, dynamo, and engine design are taken up. By a careful solution of practical problems the student becomes familiar with the process carried on by the operators and designers of successful machine building plants.

The course in Mechanical Engineering involves three separate lines of work :

1. *Mechanical Engineering*, the object of which is to give that training necessary to fit men to be operators and designers of steam machinery and manufacturing plants.

2. *Chemical Engineering*, intended especially to give the knowledge requisite for the successful operation of iron and steel plants and the analysis of iron, steel, coals, and refractory substances.

3. *Electrical Engineering*, in which the theory, design, building, and operation of dynamos and motors are predominant.

Particular attention is paid to the construction of power and lighting stations.

The course of study in Mechanical and Electrical Engineering, extending over a period of four years, leads to the degree B. M. E. (Bachelor of Mechanical Engineering). The advanced degree of Mechanical Engineer may be obtained by resident students in one year after taking the degree of B. M. E. from the State College of Kentucky, or any other institution of equal requirements, they having successfully carried on the work laid down, passed a satisfactory examination, and presented an acceptable thesis. The advanced degree may also be taken in three years after obtaining the degree of B. M. E., provided the student has been engaged during the period of three years in practical engineering work, passes a satisfactory examination at the College, and presents an acceptable thesis.

### FRESHMAN YEAR.

*Technical Instruction* — Twenty-six weeks, three hours per week. (a) Recitations on the forms of wood-working tools, and the cutting and peculiarities of timber. (b) Lectures on the operation of the various forms of wood-working machinery. (c) Lectures on pattern-making, moulding, and casting.

*Mechanical and Free Hand Drawing* — Twenty-six weeks, six hours per week, and ten weeks, ten hours per week. (a) This drawing includes

free-hand sketches, drawing from copies and models, using parts of machines in the Mechanical Laboratories as models. (b) Free-hand lettering. (c) Exercises in tinting and shading. (d) Tracing.

*Shop-work* — Thirty-six weeks, twelve hours per week. (a) Bench-work in wood, including exercises in the following operations: Planing, sawing, rabbeting, plowing, notching, splicing, mortising, tenoning, dovetailing, framing, paneling, and the general use of carpenters' tools. (b) Wood-turning, involving the various principles of lathe-work in wood. (c) Pattern-making, which gives the student discipline in the construction of patterns for foundry work. (d) Foundry work, including the various operations of moulding, core-making, and the melting of iron and brass.

*English* — Thirty-six weeks, five hours per week.

*Algebra* — Twelve weeks, five hours per week.

*Geometry* — Seventeen weeks, five hours per week.

*Trigonometry* — Nineteen weeks, five hours per week.

#### SOPHOMORE YEAR.

*Technical Instruction* — Sixteen weeks, one hour per week. (a) Lectures on the handling of iron and steel in forging, and the methods of tempering and annealing steel. (b) Lectures on modern machine-shop practice.

*Mechanical Drawing* — Sixteen weeks, four hours per week; thirty-six weeks, five hours per week. (a) Drawing the parts of machines and complete machines to scale. (b) Geometric and Descriptive Geometry problems. (c) Design of machine details.

*Shop-work* — Thirty-six weeks, twelve hours per week. (a) Exercises in iron and steel forging. (b) Exercises in vise-work in metal. (c) General machine work, including screw-cutting, drilling, planing, and the milling of iron, brass, and steel.

*Descriptive Geometry* — Nineteen weeks, five hours per week.

*Physical Laboratory* — Seventeen weeks, five hours per week.

*Physics* — Seventeen weeks, five hours per week.

*Solid Geometry* — Seventeen weeks, five hours per week.

*Analytical Geometry* — Nineteen weeks, five hours per week.

*Chemistry* — Nineteen weeks, five hours per week.

*Surveying* — Nineteen weeks, three hours per week.

*Metallurgy* — Twelve weeks, six hours per week. The above includes the study of fuel and refractory substances, and the process employed in puddling iron and making steel.

*Calculus* — Ten weeks, five hours per week.

#### JUNIOR YEAR.

*Kinematics* — Fifteen weeks, five hours per week. Under this head are studied the velocity ratios in various motions, construction of gears, cams, quick-return motions, and the manner of designing trains of mechanism.



*Mechanical Drawing*—Thirty-six weeks, six hours per week. The work done during the year consists in the design of machines to do certain specific work, and the making of detail drawings of machines used in actual construction in the laboratories.

*Chemical Laboratory*—Fifteen weeks, six hours per week.

*Analytical Mechanics*—Nineteen weeks, five hours per week.

*Strength of Materials*—Fifteen weeks, five hours per week.

*Heat*—Ten weeks, five hours per week.

*Experimental Engineering Laboratory*—Fifteen weeks, six hours per week.

*Magnetism and Electricity*—Fifteen weeks, five hours per week.

*Graphic Statics*—Ten weeks, five hours per week.

*Calculus*—Fifteen weeks, five hours per week.

*Electrodynamic Machinery*—Ten weeks, five hours per week.

*Theory of Machine Design*—Ten weeks, five hours per week.

*Dynamo and Motor Design*—Ten weeks, five hours per week.

*Electrical Laboratory and Design*—Ten weeks, five hours per week.

#### SENIOR YEAR.

*Thermodynamics*—Fifteen weeks, three hours per week. This work consists of a study of the laws of thermodynamics, thermal capacities, and the application of thermodynamics to the steam engine.

*Steam Boilers*—Ten weeks, five hours per week. A study of the various commercial steam boilers, consumption of fuel, incrustation, determining the horse-power of boilers, boiler tests, the design of boilers for efficiency and economy, and the methods of power transmission.

*Valve Gearing*—Fifteen weeks, five hours per week. The study of various forms of standard engine valves and methods of designing.

*Hydraulics*—Fifteen weeks, two hours per week.

*Alternating Currents*—Seventeen weeks, five hours per week.

*Mechanical Drawing*—Seventeen weeks, ten hours per week. This consists in working out valve gear problems.

*Engine and Machine Designing*—Fifteen weeks, five hours per week. A study of the modern methods of designing engines, boilers, and machines.

*Experimental Engineering*—Fifteen weeks, ten hours per week. Includes a study of the steam-engine indicator, making engine, boiler, and materials for construction tests.

*Political Economy*—Ten weeks, five hours per week.

*Theory and Practice of Photography*—Ten weeks, five hours per week.

*Continuous Current Dynamos and Motors*—Nineteen weeks, five hours per week.

*History*—Twenty weeks, five hours per week.

*Dynamometers and Measurement of Power*—Twelve weeks, five hours per week.



*Thesis Work* — Nineteen weeks, twelve hours per week.

Every student, before he attains the degree of B. M. E., must present a satisfactory thesis on some new design of a machine, or an original investigation.

The greater part of the second term of the Senior year is given to the preparation of this thesis. The subjects for theses are assigned to students by the Dean of Mechanical and Electrical Engineering Faculty, and the completed theses are kept on file with the college records, that they may serve as a reference for future investigators.

### ELECTRICAL ENGINEERING.

The special work in electrical engineering is closely associated with steam engineering, and machine design, but opportunity is offered for carrying on research work. The thesis of any candidate for B. M. E. may be along electrical lines.

The instruction is carried on with special reference to the needs of the practical electrical engineer. This work comprises the study of Central Station design and construction, of prime movers, the design and construction of electrodynamic machinery, the study of the problems involved in the distribution of the electric light and the electric transmission of power, besides practice in electrical measurements, computation and testing as applied to the construction and maintenance of electric lighting, and power plants, and to the purposes of investigation.

### XIII. DEPARTMENT OF ANATOMY AND PHYSIOLOGY.

PROFESSOR PRYOR.

Anatomy, Physiology, and Hygiene are taught to students of the Classical, Scientific, Biological, Chemical, and Normal courses, extending throughout both terms of the Freshman year.

At the beginning of the second term a special class is organized for the benefit of Normal students. A thorough working knowledge of these branches is taught by means of lectures, demonstrations, and recitations.

This department is well provided with the apparatus necessary to illustrate the work of the student. The equipment includes papier-maché manikin, and models (Auzoux) of eye, ear, larynx, etc.; skeletons, charts, microscopes, a new projecting lantern of the latest pattern, a full set of anatomical and histological lantern slides, a Thoma-Zeiss Hæmacytometer, Marey's Sphygmograph, modified by Mahomed, etc.

New apparatus is purchased each year, and with the addition of a Physiological Laboratory, nothing more could be desired.

The studies of this Department, in conjunction with those in other branches of Biology and Chemistry, serve as an admirable preparation for students who intend to enter upon a professional life, and this remark applies with special force to those who are to devote themselves to the study of medicine. Special arrangements have been made with

leading medical colleges whereby certificates of proficiency issued from this Department will be duly accredited by them. This, in some instances, will be equivalent to one full year's study at a medical college, and will be accepted as such. To prospective students of medicine, therefore, this department offers inducements seldom afforded in educational institutions.

*Text-books:* Huxley and Youmans' Physiology and Hygiene; Martin's Human Body; Martin's Briefer Course, and Shafer's Essentials of Histology.

*For reference only:* Gray's Anatomy, Kirke's Hand-book of Physiology, and Foster's Physiology.

## XIV, XV. DEPARTMENTS OF GEOLOGY AND ZOÖLOGY.

PROFESSOR MILLER.

### Geology.

#### EQUIPMENT AND FACILITIES.

This Department occupies one half of the second floor of the Natural History Building.

The Geological Laboratory is fitted up with tables and chairs, and contains the study collection of fossils and minerals.

The Mineralogical Laboratory is arranged in its furnishings with special reference to its use as a mineral testing laboratory.

The Geological Lecture Room, furnished with folding lecture-room seats, table, lantern stand, sliding blackboard, wall screen, and means for quickly darkening the room, is admirably adapted for recitation and lecture uses.

The collections in Mineralogy and Palæontology are arranged and classified with special reference to their use in class instruction.

The Museum occupying the entire third floor of the building now contains the State Geological Survey Collection, a valuable addition to the instruction facilities of this department.

As additional equipment may be mentioned the department library of geological literature, consisting of Reports both State and National, maps, charts, models, lantern slides, and photographic illustrations.

In addition to the facilities afforded by the in-door equipment, the situation of the College itself happens to be peculiarly favorable from a geological standpoint. Located, as it is, in the center of the Blue Grass Region, at the base of the Geological Series of the State, it affords logically the best starting point for the student of Kentucky geology who would gain a clear comprehension of how the rock foundations of his State have been laid. Both for this reason, therefore, and because geology is preëminently an out-door study, the "Excursion" is made a prominent feature of the instruction in this Department. It is by the field work these excursions afford that the student's ability to apply in-door knowledge previously acquired is put to the test, and his powers of making generalizations in the open air are exercised.

### BRANCHES OF STUDY.

The general order of succession in the geological studies is as follows: 1. Palæontology, 2. Mineralogy, 3. Advanced Geology. Besides these, in which what follows is intimately based upon what precedes, are two self-contained studies: 4. A Shorter Course in Geology, and 5. Economic Geology.

#### I. PALAEONTOLOGY.

**SECOND TERM**—Required of Juniors who elect as their major study Geology, Botany, Zoölogy, or Pedagogy.

Lectures on the nature and zoölogical positions of different fossil groups are given, and the student is expected to become familiar with the fossils themselves by actual examination. Special attention is paid to fossils common in Kentucky. The collections of the department are well suited for this purpose. The instruction is entirely by lectures and laboratory work.

#### II. MINERALOGY.

**THIRD TERM**—This study follows Palæontology, and is required of the same students, with the addition of those who elect Agriculture as their major.

The object of the study is to render the students familiar with the composition and physical characters of those common minerals and rocks likely to be met with both in the course of every-day observation and in geological pursuits. The instruction involves both laboratory and text-book work. Crosby's Tables for Determination and his Common Minerals and Rocks are the books used.

#### III. ADVANCED GEOLOGY.

**FIRST TERM**—Required of students who elect as their major study, Geology, Botany, Zoölogy, or Pedagogy.

It is meant to be the culmination for those who have availed themselves of all the opportunities for the study of Geology offered in this Department. It is to be hoped that some of these students may be induced to go further, and either in their home localities or elsewhere make a beginning at doing original work. Kentucky, with its large amount of territory practically unexplored geologically, offers an especially fine field to young geologists.

*Text-book*: Scott's Introduction to the Study of Geology.

#### IV. SHORTER COURSE IN GEOLOGY.

**FIRST TERM**—Required of Seniors who are candidates for the degree of A. B. The only prerequisite for this course is the second term Zoölogy.

*Text-book*: Tarr's Elementary Geology.

## V. ECONOMIC GEOLOGY.

SECOND AND THIRD TERMS (Tuesdays and Thursdays)—Required of students who elect as their major study, Geology, Agriculture, Chemistry, Physics, or Civil Engineering.

As the name indicates, it is the practical or inorganic rather than the organic side of Geology that is here made prominent. Historical Geology is studied briefly and in outline. Fossils are considered important in so far as they serve to determine rocks, whereas in General or Biological Geology the reverse may be considered true. Structural Geology becomes relatively important, and Mineralogy and Lithology occupy a leading place. Some of the topics of economic importance treated are: Common Rocks and Vein-forming Minerals; Origin of Ore Deposits; Mining Terms and Methods; Coal; Petroleum; Natural Gas, and Asphaltums; Building Stone, Clay, and Cement; Geological Fertilizers; Relation of Geology to Agriculture; Relation of Geology to Engineering.

*Text-book:* Tarr's Economic Geology, supplemented by lectures.

In addition to the above, a course of about seven lectures on the Relation of Geology to Agriculture is given in connection with the Short Course in Agriculture.

## Zoology.

### EQUIPMENT AND FACILITIES.

The Department of Zoölogy occupies two rooms on the first floor of the Natural History Building. These rooms are provided with tables and a special set of apparatus, including compound microscopes, for each student. Besides this there is a complete general equipment for all lines of zoölogical work, such as: a full set of zoölogical charts imported from Germany for use in the study of systematic Zoölogy; microtomes and paraffine baths for work in microscopy; a selection of type skeletons to illustrate osteology; alcoholic specimens of both marine and inland forms to illustrate general zoölogy, with duplicates for class dissections; and finally the Department is equipped with a library of standard zoölogical literature, including the leading periodicals devoted to the interests of biological science. Moreover, opportunities for collecting zoölogical material, as well as for studying the habits of living animals, are afforded by the "Excursions" mentioned above.

### BRANCHES OF STUDY.

These are six, enumerated as follows: 1. Systematic Zoölogy, 2. Laboratory Zoölogy, 3. Osteology, 4. Embryology, 5. Physiological Psychology, 6. Economic Entomology.



### I. SYSTEMATIC ZOÖLOGY.

**FIRST TERM** — Required of students who elect as their major study, Geology, Zoölogy, Botany, Agriculture, Chemistry, Pedagogy, or Physics.

A general presentation of the subject is here attempted. The general principles governing Taxonomy are laid down and the different subkingdoms taken up and studied in detail. The practical work is limited to that which can be satisfactorily accomplished in daily exercises of one hour each. Much of it consists of demonstrations by the instructor of the chief external features of the animal as well as of such internal features as can be presented in this brief space of time. Accompanying this instruction, which is given chiefly by lectures and demonstrations, the student is expected to gain facility in the determination of species through the use of natural and artificial "keys," as, for instance: Jordan's Manual of the Vertebrates of the United States, and Miss Warner's Butterflies of Kentucky. A copy of each of these is loaned to the student as a part of the laboratory equipment.

### II. LABORATORY ZOÖLOGY.

**SECOND AND THIRD TERMS** — The Second Term's work is a Text-book and Laboratory study required of those who elect as their major, Zoölogy, Geology, Botany, Pedagogy, or Agriculture. The text-book part of the work is taken by classical students also. This book, Arthur Thompson's Animal Life, is used to present to the class in a form suitable for discussion such interesting topics of Biology as Interrelation of Plants and Animals, the Struggle for Existence, Coloration of Animals, Social Life of Animals, Protoplasm, Origin of Life, Physiological Division of Labor, Animal Psychology, Principles of Embryology, the Past History of Animals, the Doctrine of Evolution, Heredity, Animal Life and Ours.

The Second Term laboratory work consists chiefly of a course in "Animal Histology." To each student is assigned a table equipped with a full line of apparatus and reagents. For this no charge is made other than that for use of a case of dissecting instruments and for breakage. The main object of this part of the course is the acquisition by the student of skill in microscopical manipulation and technique. Students are taught how to harden, stain, imbed, cut, and mount tissues for microscopical examination, and how to draw and interpret these sections.

The Third Term is devoted to laboratory work exclusively, and consists of a thorough study of the anatomy and development of some vertebrate, as the frog.

### III. OSTEOLOGY.

**SECOND TERM** — Required of Juniors who elect as their major study, Zoölogy or Geology.

Five hours a week are given to the comparative study of the vertebrate skeleton — chiefly that of the Mammalia.

*Text-book:* Flower's Osteology of the Mammalia.



#### IV. EMBRYOLOGY.

**THIRD TERM** — Required of Juniors who elect as their major study, Zoölogy or Agriculture.

Five hours a week are assigned for this study. Instruction consists of lectures upon the general facts and principles of Embryology, accompanied by practical work on the embryonic development of such vertebrates as the frog and chick.

*Text-book :* Balfour's Elements of Embryology.

#### V. EXPERIMENTAL PSYCHOLOGY.

**SECOND TERM** — Required of Juniors who elect as their major study, Pedagogy, Zoölogy, Botany, or Agriculture. This is a combined text-book and laboratory course under the joint supervision of the Departments of Pedagogy and Zoölogy.

The laboratory practice pertaining to the latter Department consists of two exercises per week, and involves a practical examination into the comparative anatomy and physiology of the nervous system.

#### XVI. DEPARTMENT OF PHYSICS.

PROFESSOR PENCE.

##### EQUIPMENT AND FACILITIES.

The Department of Physics occupies two adjacent rooms on the east side, and in the basement, of the Main College Building. The lecture-room is eighteen feet by forty-four feet, and will comfortably seat fifty or more students. It has the necessary lecture-table, with gas, water, and drainage; and is arranged to be used at pleasure as a dark room. The laboratory is twenty-four feet by thirty feet. It is well furnished with instruments for use in experimentation, cases for apparatus, tables, water; and has twenty-four spaces at the tables for individual work, each with gas and drawers. This department is well equipped with apparatus, nearly all of which is new.

##### COURSE IN PHYSICS.

The course in Physics is offered to those who may find in its schedule of studies on page 51 lines of work which pursued may enable them to enter successfully on some life profession. It is intended for those whose natural tastes and abilities lead them to pursue such studies, as well as for those who wish to teach Physics or to do work in Physical Science. In the present highly scientific age, the greatest developments have been in Physical Science, and those who are best able to utilize physical resources are those who are best able to recognize physical laws and accurately interpret physical phenomena.

The course is not technical. It is as broad as scientific as the conditions under which it exists will allow. As seen from the schedule of studies, three years are devoted to Theoretical and Experimental Physics, three and one-half to Mathematics and Astronomy, two to English, two to German, and one each is given to Chemistry, Physiology, Botany, and French. One year is also given to History and Political Economy, and one to Logic, Mental and Moral Philosophy. Five months are assigned to Zoölogy and five to Geology.

The work proper in Physics begins in the Sophomore year, during the first term of which there are lectures, fully illustrated by experiments, with recitations, one hour daily. This work embraces the subjects of Molar, Molecular, and Ether Dynamics, treating of the General Properties of Matter, Sound, Heat, Light, Electricity and Magnetism; and is intended to give the student a general knowledge of physical phenomena and of physical laws, and to prepare him for the practical work that follows.

Laboratory practice, one and one-half hours daily, follows, and continues during the remainder of this year. Experimental work is done in the Mechanics of Solids, Liquids, and Gases, and in Heat, during the second term; and in Electricity and Magnetism, Sound, and Light, the third term.

*Text-books:* Gage's Principles of Physics, and Gage's Physical Experiments.

The work of the Junior year is specialized. There are illustrated lectures and recitations one hour daily throughout the year. Electricity and Magnetism is studied during the first term; Heat, the second term; and Light, the third. Some of the subjects considered in the first term are Frictional Electricity, Magnetism, Current Electricity, Electro-statics, Electro-Magnetics, Measurements of Currents, Thermo-Electricity, Heat and Power and Light from Electric Currents, Inductance, Dynamos, Motors, Transformers, Electro-Chemistry, Telegraphy, Telephony, Electric Waves. In Heat the principal subjects are Thermometry, Expansion of Solids and Liquids and Gases, Thermal Units, Calorimetry, Mechanical Equivalent of Heat, Fusion and Vaporization, Laws of Vapors, Hygrometry, Thermo-Chemistry, Dynamical Theory of Gases, Radiation, Convection, Conduction, Thermo-Dynamics, Steam Engine.

Experimental work in the laboratory extends through the second and third terms of this year, one and one-half hours daily, and consists of physical measurements in Electricity and Magnetism, Heat, and Light.

*Text-books:* S. P. Thompson's Electricity and Magnetism, Cumming's Heat, Glazebrook's Light.

Much importance is attached to all work in the laboratory. Each student is furnished with the necessary apparatus, and must keep a systematic account of all his experiments, giving the data and results of each. The work is mainly quantitative.

The amount of Physics required in each of the groups of courses leading to a degree is to be seen in the respective schedules of studies.

**XVII. DEPARTMENT OF ENTOMOLOGY.**

PROFESSOR GARMAN.  
of the Experiment Station.

In the Agricultural Course and in the Scientific Courses, in which Botany and Zoölogy are major studies, instruction in Entomology begins with the second term of the Senior year, students in these courses meeting the first hour of Tuesdays and Thursdays.

Occasional inquiries for entomologists to fill positions in other institutions have lately been received at the College, and have suggested the desirability of a special course of study in Entomology that will fit those who pursue it for the work required in Agricultural Colleges and other institutions. The Scientific course with Entomology as major study is intended to meet this want. It is estimated by our best entomologists and statisticians that we lose annually in this country from the depredations of injurious insects not less than \$100,000,000. If this be so, it is highly important that a knowledge of insects and their habits should be disseminated among the people, and is especially important in Kentucky, where the leading industry is agriculture. It has been urged that a reduction of a crop to the extent of one fourth or one half of its value by insects should be regarded as a tax of twenty-five or fifty per cent on its full value. Such a tax is collected year after year, often without any attempt at resistance. It is the purpose of the Entomological work at the College to place in the hands of the students who expect to make farming their occupation such means of defense against loss as are known to those who have given the matter study. The Department is especially well provided for in this direction, having the benefit of the work done at the Experimental Station, and having access to the collections, apparatus, and library accumulated for Station work. The collection now contains examples of most of the injurious insects which are found in the United States, and is constantly being enlarged. The Station is well supplied with breeding cages for use in studying the habits and life histories of insects, so that students who wish to do so have an opportunity to observe for themselves the various stages presented by a developing insect, and may see it in many cases actually engaged in its destructive work. An Insectarium recently added to our facilities gives us increased opportunity in this field of investigation.

## DEGREES.

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The State College confers the degrees of —

Bachelor of Science (B. S.),  
Bachelor of Arts (A. B.),  
Bachelor of Agriculture (B. Agr.),  
Bachelor of Civil Engineering (B. C. E.),  
Bachelor of Mechanical Engineering (B. M. E.),  
Bachelor of Pedagogy (B. Ped.),  
Master of Science (M. S.),  
Master of Arts (A. M.),  
Master of Agriculture (M. Agr.),  
Master of Civil Engineering (C. E.),  
Master of Mechanical Engineering (M. E.).

### CONDITIONS OF GRADUATION.

To attain the Bachelor's degree, the applicant must have been a student of the College at least one session, and he must have passed the examination on all the courses of study leading to the desired degree.

To attain the Master's degree, the applicant must have attained the Bachelor's; he must have pursued, for at least one session in this College or two sessions elsewhere, a major study selected by himself and one or two minor studies assigned him by the Faculty; and finally he must, at least thirty days before the end of the session, have satisfied the Faculty that he is duly proficient in his studies, and have presented to the College an acceptable thesis on his major study or on some part thereof.

If the applicant be an alumnus of another institution of learning, he must satisfy the Faculty that he has completed a course of study for his first degree equivalent to that prescribed in this College for the same degree; and he must matriculate and study under the direction of the Faculty at least one session.

Students that complete a part of the courses in a satisfactory manner may, in attestation of the fact, receive Certificates of Proficiency.

## GROUPING OF COURSES FOR DEGREES.

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### I. COURSES FOR THE DEGREE OF B. S.

History, Political Economy, and Metaphysics, . . .	President Patterson.
Botany, . . . . .	Professor Mathews.
The English Language and Literature, . . . . .	Professor Shackelford.
Military Science, . . . . .	Major Jones.
Chemistry, . . . . .	Professor Kastle.
Mathematics and Astronomy, . . . . .	Professor White, Dean.
The French and German Languages, . . . . .	Professor Wernicke.
Anatomy and Physiology, . . . . .	Professor Pryor.
Geology and Zoölogy, . . . . .	Professor Miller.
Physics, . . . . .	Professor Pence.
Drawing, . . . . .	Ass't Professor Faig.

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For the Degree of M. S., either Chemistry, Biology, Geology, Mathematics, or Physics may be selected as major study; and minor studies will be assigned from Biology, Chemistry, Geology, Mathematics, Physics, English, History, Political Economy, Metaphysics, French and German.



## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, CHEMISTRY.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Plane Geom.	German.	Physiology.	Drill.	Drawing.
	2	English.	Trigonometry.	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Botany (Entr.)
SOPHOMORE.	1	Solid Geom.	German.	Physics.		Drill.	Botany.
	2	Anal. Geom.	German.	Botany.	Chemistry.	Drill.	Physics.
	3	Anal. Geom.	German.	Calculus.	Chemistry.	Drill.	Physics.
JUNIOR.	1	Theor. Chemistry.	English.	Calculus.	French.	Drill.	Chemistry.
	2	Theor. Chemistry.	English.	Calculus.	French.	Drill.	Chemistry.
	3	Theor. Chemistry.	English.	Theor. Chem.	French.	Drill.	Quant. Analysis.
SENIOR.	1	Zoölogy.	History.	Logic.	Chem. Reading.	Drill.	Organ. Chemistry.
	2	Quant. Analysis.	History.	Metaphysics.	Econ. Geology.	Drill.	Chem. Research
	3	Quant. Analysis.	Polit. Economy.	Mor. Philos.	Econ. Geology.	Drill.	Chem. Research Thesis.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, ZOÖLOGY.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Plane Geom.	German.	Physiology.	Drill.	Drawing.
	2	English.	Trigonometry.	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Ent. Botany.
SOPHOMORE.	1	Solid Geom.	German.	Physics.		Drill.	Botany.
	2	Analyt. Geom.	German.	Botany.	Chemistry.	Drill.	Physics (Lab.)
	3	Analyt. Geom.	German.	Syst. Botany.	Chemistry.	Drill.	
JUNIOR.	1	Syst. Zoölogy.	Osteology.		French.	Drill.	Chemistry (Lab.)
	2	Palæontology.		Exp. Psychology.	French.	Drill.	Zoölogy (Lab.)
	3	Mineralogy.		Embryology.	French.	Drill.	Zoölogy (Lab.)
SENIOR.	1		History.	Logic.		Drill.	Geology (Lab.)
	2	Entomology.	History.	Metaphysics.	Astronomy.	Drill.	Thesis.
	3	Entomology.	Polit. Economy.	Mor. Philosophy.	Astronomy.	Drill.	Thesis.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, GEOLOGY.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Plane Geom.	German.	Physiology.	Drill.	Drawing.
	2	English.	Trigonometry.	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Ent. Botany.
SOPHOMORE.	1	Solid Geom.	German.	Physics.		Drill.	Botany.
	2	Analyt. Geom.	German.	Botany.	Chemistry.	Drill.	Lab. Physics.
	3	Analyt. Geom.	German.	Syst. Botany.	Chemistry.	Drill.	
JUNIOR.	1	Syst. Zoölogy.	Osteology.		French.	Drill.	Lab. Chem.
	2	Palæontology.		Mech. Drawing.	French.	Drill.	Surveying.
	3	Mineralogy.		Mech. Drawing.	French.	Drill.	Surveying.
SENIOR.	1		History.	Logic.		Drill.	Gen. Geol.
	2		History.	Metaphysics.	Astron. Geol.	Drill.	Thesis.
	3		Polit. Econ.	Moral Philos.	Astron. Geol.	Drill.	Thesis.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, BOTANY.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Plane Geometry.	German.	Physiology.	Drill.	Drawing.
	2	English.	Plane Trigonometry.	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Entrance Bot.
SOPHOMORE.	1	Solid Geom.	German.	Physics.		Drill.	Gen. Botany.
	2	Analyt. Geom.	German.	Gen. Botany.	Chemistry.	Drill.	Lab. Physics.
	3	Analyt. Geom.	German.	Syst. Botany.	Chemistry.	Drill.	Syst. Botany.
JUNIOR.	1	Zoölogy.	Plant Histology.	Econom. Botany.	French.	Drill.	Lab. Chemistry
	2	Palaeontology.		Phys. Psychology.	French.	Drill.	Lab. Zoölogy.
	3	Mineralogy.	Botany. Algæ.	Bot. Alg. Fungi.	French.	Drill.	Lab. Zoölogy.
SENIOR.	1		History.	Logic.	Thesis.	Drill.	Geology.
	2	Entomol. Thesis.	History.	Metaphysics.	Astronomy.	Drill.	Thesis.
	3	Entomol. Thesis.	Polit. Economy.	Mor. Philosophy.	Astronomy.	Drill.	Thes. Photog.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. S. (MAJOR, PHYSICS.)

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Plane Geom.	German.	Physiology.	Drill.	Drawing.
	2	English.	Plane Trigonom.	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Botany.
SOPHOMORE.	1	Solid Geom.	German.	Physics.		Drill.	Botany.
	2	Analyt. Geom.	German.	Botany.	Chemistry.	Drill.	Physics.
	3	Analyt. Geom.	German.	Calculus.	Chemistry.	Drill.	Physics.
JUNIOR.	1	Electricity. Magnetism.	English.	Calculus.	French.	Drill.	Chemistry.
	2	Heat.	English.		French.	Drill.	Physics.
	3	Light.	English.		French.	Drill.	Physics.
SENIOR.	1	Zoölogy.	History.	Logic.	Spher. Trigon. Astronomy.	Drill.	Reading.
	2		History.	Metaphysics.	Astronomy. Geology.	Drill.	Thesis.
	3		Polit. Economy.	Moral Philosophy.	Astronomy. Geology.	Drill.	Thesis.



## II. COURSES FOR THE DEGREE OF A. B.

History, Political Economy, and Metaphysics, . .	President Patterson.
Botany, . . . . .	Professor Mathews.
The English Language and Literature, . . . .	Professor Shackelford.
Military Science, . . . . .	Major Jones.
Chemistry, . . . . .	Professor Kastle.
Mathematics and Astronomy, . . . . .	Professor White.
The French and German Languages, . . . . .	Professor Wernicke.
The Greek and Latin Languages, . . . . .	Professor Neville, Dean.
	Ass't Prof. Blanton.
Physiology, . . . . .	Professor Pryor.
Geology and Zoölogy, . . . . .	Professor Miller.

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For the Degree of A. M., either Greek, Latin, English, History, Mental Science, French or German may be selected as major study; and minors will be assigned from Greek, Latin, English, Mathematics, History, Mental Science, Political Economy, French and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF A. B.

YEAR	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Plane Geom.	Greek. German.	Latin.	Drill.	
	2	English.	Plane Trigonomet.	Greek. German.	Latin.	Drill.	
	3	English.	Algebra.	Greek. German.	Latin.	Drill.	
SOPHOMORE.	1	Latin.	Greek. German.	Physiology.		Drill.	
	2	Latin.	Greek. German.	Physics.	Chemistry.	Drill.	
	3	Latin.	Greek. German.	Physics.	Chemistry.	Drill.	
JUNIOR.	1	Solid Geom.	English.	Greek. Latin.	French.	Drill.	
	2	Analyt. Geom.	English.	Greek. Latin.	French.	Drill.	Botany.
	3	Analyt. Geom.	English.	Greek. Latin.	French.	Drill.	
SENIOR.	1	Latin. French.	History.	Logic.	Geology.	Drill.	
	2	Latin. French.	History.	Metaphysics.	Astronomy.	Drill.	Zoölogy.
	3	Latin. French.	Polit. Economy.	Mor. Philosophy.	Astronomy.	Drill.	

### III. COURSES FOR THE DEGREE OF B. PED.

History, Political Economy, and Metaphysics, . .	President Patterson.
Botany and Horticulture, . . . . .	Professor Mathews.
The English Language and Literature, . . . . .	Professor Shackleford.
Military Science, . . . . .	Major Jones.
Chemistry, . . . . .	Professor Kastle.
Mathematics and Astronomy, . . . . .	Professor White.
The Greek and Latin Languages, . . . . .	Professor Neville.
Pedagogy, . . . . .	Professor Roark, Dean. Ass't Prof. White.
Anatomy and Physiology, . . . . .	Professor Pryor.
Geology and Zoölogy, . . . . .	Professor Miller.
Physics, . . . . .	Professor Pence.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. PED.

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Plane Geom.	German or Latin.	Physiology.	Drill.	Drawing.
	2	English.	Plane Trigonom.	German or Latin.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German or Latin.	Physiology.	Drill.	Botany.
SOPHOMORE.	1	Solid Geom.	German or English.	Physics.		Drill.	Botany.
	2	Analyt. Geom.	German or English.	Botany.	Chemistry.	Drill.	Physics.
	3	Analyt. Geom.	German or English.	Gen. Pedagogy.	Chemistry.	Drill.	Physics.
JUNIOR.	1		Educat. Psychol.		Cicero.	Drill.	Chemistry.
	2	Palæontology.		Exp. Psychology.	Livy.	Drill.	Zoölogy.
	3	Mineralogy.	Educat. Economy.	Calculus (Elective)	Livy.	Drill.	Zoölogy.
SENIOR.	1	Virgil.	History.	Calculus (Elective)	Educational Method.	Drill.	Gen. Geol.
	2	Virgil.	History.	Metaphysics.	Astronomy. Hist. Educat.	Drill.	Obs. Work in Pedagogy.
	3	Cicero. Terence.	Polit. Economy.	Mor. Philos.	Astronomy. Hist. Educat.	Drill.	Thesis.

## SCHEDULE OF STUDIES FOR THE STATE DIPLOMA.

	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AT OTHER HOURS.
ONE YEAR.	Latin.	Plane Geometry.	Psychology.	Physics.	Drill.	Forensics.
	English Literature.	Advanced Arithmetic.	Advanced Algebra.	Latin.	Drill.	Forensics, Pedagogy.

## SCHEDULE OF STUDIES FOR THE COUNTY CERTIFICATE.

FIVE MONTHS.	Arithmetic or Grammar.	Geography or Composition.	Civics or Orthography.	U. S. History.	Drill.	Forensics.
TEN WEEKS.	Arithmetic or Composition.	Higher Arithmetic or Grammar.	Geography or Physiology.	Civics.	Drill.	Forensics.
	Ky. History or Grammar.	Higher Arithmetic or Composition.	Geography or Physiology.	U. S. History.	Drill.	Forensics, Pedagogy.

## SCHEDULE OF STUDIES FOR THE STATE CERTIFICATE.

SECOND FIVE MONTHS.	English Literature.	Higher Arithmetic.	Psychology.	Algebra.	Drill.	Forensics, Pedagogy.
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## IV. COURSES FOR THE DEGREE OF B. M. E.

History and Political Economy, . . . . .	President Patterson.
The English Language and Literature, . . .	Professor Shackelford.
Military Science, . . . . .	Major Jones.
Chemistry, . . . . .	Professor Kastle.
Mathematics, . . . . .	Professor White.
Mechanical Engineering, . . . . .	Professor Anderson, Dean. Ass't. Prof. Faig.
Electrical Engineering, . . . . .	Ass't Prof. Sturdevant.
Physics, . . . . .	Professor Pence.
Shopwork and Drawing, . . . . .	Instructor Johnson.
Experimental Engineering, . . . . .	Professor Anderson. Assistant De Bow.

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For the Degree of M. E., either Steam Engineering, Electrical Engineering, Chemical Engineering, Experimental Engineering, or Machine Designing may be selected as major study; and minor studies will be assigned from Steam Engineering, Electrical Engineering, Chemical Engineering, Experimental Engineering, Machine Designing, Mechanical Laboratory Work, Mathematics, Physics, Chemistry, Mental Science, Political Science, English and Modern Languages.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. M. E.

YEAR.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.	SATURDAY.
FRESHMAN.	English.	Plane Geom.	Model and Object Draw'g.	Woodwork Mach. Design.	Drill.	Shop Woodwork, Bench, Lathe.	Shop Woodwork, Bench, Lathe.
	English.	Plane Trigon.	Physics.	Pattern Making Foundry Drawing.	Drill.	Patt'rn-Making Foundry.	Patt'rn-Making
	English.	Algebra.	Physics.	Mech. Draw'g.	Drill.	Patt'rn-Making Foundry.	Patt'rn-Making
SOPHOMORE.	Solid Geom. Algebra.	Chemistry.	Design.	Phys. Laboratory.	Drill.	Iron and Steel Forging.	Mech. Drawing. Elem. Mach. Des.
	Analyt. Geom.	Surveying.	Metallurgy.	Descr. Geom.	Drill.	Machine Work.	Mech. Drawing. Des. Descr Geom.
	Analyt. Geom.	Elem't. Design.	Calculus.	Descr. Geom.	Drill.	Machine Work Surveying.	Draw'g Design Descr. Geom.
JUNIOR.	Magnetism. Electricity.	Kinematics.	Calculus.	Strength of Materials.	Drill.	Chem. Lab. Mach. Design.	Kinematics.
	Magnetism. Electricity.	Theory of Mach. Design.	Analytic Mechanics.	Electro-dynam. Machinery.	Drill.	Steam and Electric Lab. Mach. Des.	Mach. Design.
	Heat.	Graph. Statics.	Analytic Mechanics.	Dynamo and Motor Design.	Drill.	Steam and Electric Lab. Mach. Des.	Electric. Des.
SENIOR.	Thermodynamics Hydraulics.	History.	Valve Gears. Steam Boilers.	Altern. Currents. Dynam. Mot. Des.	Drill.	Valve and Mach. Design.	Electric. Des.
	Altern. Currents. Power Plants.	History.	Steam Engine Design.	Dynamometers, Meas. Pow'r Pumps	Drill.	Valve and Mach. Design.	Electric. Des.
	Thesis.	Polit. Economy.	Photography.	Thesis.	Drill.	Thesis.	Thesis.

## V. COURSES FOR THE DEGREE OF B. C. E.

History and Political Economy, . . . . .	President Patterson.
The English Language and Literature, . . .	Professor Shackleford.
Military Science, . . . . .	Major Jones.
Chemistry, . . . . .	Professor Kastle.
Mathematics and Astronomy, . . . . .	Professor White.
Civil Engineering, . . . . .	Professor Brooks, Dean.
Mechanical Engineering, . . . . .	Professor Anderson.
Geology, . . . . .	Professor Miller.
Physics, . . . . .	Professor Pence.
Descriptive Geometry, . . . . .	Ass't Prof. Faig.
Electrical Engineering, . . . . .	Ass't Prof. Sturdevant.
Shopwork and Drawing, . . . . .	Mr. Johnson.

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For the Degree of C. E., either Railways, Structures, Water Power, Municipal or Mining Engineering, Sanitation, Topographical, Geodetic, or Architectural Engineering may be selected as major study; and minors will be assigned from Mathematics, Astronomy, Mechanical Engineering, Geology, Chemistry, Physics, Political Economy, English, French, and German.

## SCHEDULE OF STUDIES FOR THE DEGREE OF B. C. E.

YEAR.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.	SATURDAY.
FRESHMAN.	English.	Plane Geom.	Drawing.	Mech. Drawing.	Drill.	Wood Work.	Shop Work.
	English.	Plane Trigon.	Physics.	Mech. Drawing.	Drill.	Shop Work.	Shop Work.
	English.	Algebra.	Physics.	Mech. Drawing.	Drill.	Drawing.	Drawing.
SOPHOMORE.	Solid Geom.	Chemistry.	Drawing.	Phys. Laborat.	Drill.	Drawing.	Drawing.
	Analyt. Geom.	Surveying.	Metallurgy.	Descr. Geom.	Drill.	Forging.	Descr. Geom.
	Analyt. Geom.	Elem. Design.	Calculus.	Descr. Geom.	Drill.	Surveying, Mapping.	Surveying, Mapping.
JUNIOR.	Electricity. Magnetism.	Roofs, Bridges.	Calculus.	Str. Materials.	Drill.	Topog. Survey. Mapping.	Topog. Mapping.
	Electricity. Magnetism.	Mach. Design.	Anal. Mechan.	Electro Dynam. Machinery.	Drill.	Chem. Lab.	Drawing.
	Roofs. Bridges.	Graph. Statics.	Anal. Mechan.	R. R. Survey.	Drill.	R. R. Survey.	R. R. Survey.
SENIOR.	Hydraulics. Steam Engine.	History.	Bridge Design.	Construction. Geod. Survey.	Drill.	Geod. Survey. Cement Tests.	Surveying.
	Roofs, Bridges, Power Plants.	History.	Sanitary Engineering.	Astronomy. Econom. Geol.	Drill.	Chem. Lab.	Design.
	Drawing.	Polit. Econ.	Design.	Astronomy. Econom. Geol.	Drill.	Thesis.	Thesis.

## VI. COURSES FOR THE DEGREE OF B. AGR.

History, Political Economy, and Metaphysics, . .	President Patterson.
Agriculture, Horticulture, and Botany, . . . . .	Professor Mathews.
The English Language and Literature, . . . . .	Professor Shackelford.
Military Science, . . . . .	Major Jones.
Chemistry, . . . . .	Professor Kastle.
Mathematics and Astronomy, . . . . .	Professor White.
The French and German Languages, . . . . .	Professor Wernicke.
Entomology, . . . . .	Professor Garman.
Anatomy and Physiology, . . . . .	Professor Pryor.
Geology and Zoölogy, . . . . .	Professor Miller.
Mechanical Engineering, . . . . .	Professor Anderson.
Physics, . . . . .	Professor Pence.
Drawing, . . . . .	Ass't Prof. Faig.

---

For the Degree of M. Agr., either Agricultural Chemistry, Horticulture, Entomology, or Economic Botany may be selected as major study; and minors will be assigned from Agricultural Chemistry, Horticulture, Entomology, Zoölogy, Geology, and Botany.



## SCHEDULE OF STUDIES FOR THE DEGREE OF B. AGR.

YEAR.	TERM.	FIRST HOUR.	SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	AFTERNOON.
FRESHMAN.	1	English.	Plane Geom.	German.	Physiology.	Drill.	Drawing.
	2	English.	Plane Trigonom.	German.	Physiology.	Drill.	Drawing.
	3	English.	Algebra.	German.	Physiology.	Drill.	Entrance Botany.
SOPHOMORE.	1	Zoölogy.	German.	Physics.		Drill.	Gen. Botany.
	2		German.	Gen. Botany.	Chemistry.	Drill.	Zoölogy.
	3	Mineralogy.	German.	Syst. Botany.	Chemistry.	Drill.	Zoölogy.
JUNIOR.	1	Solid Geom.	Plant Histology.	Econom. Botany.	French.	Drill.	Lab. Chemistry
	2	Hortic. Entomol.	Agriculture.	Fertiliz. Dairy.	French.	Drill.	Horticul. Dairy.
	3	Hortic. Entomol.	Botany.	Embryology.	French.	Drill.	
SENIOR.	1		History.	Logic.	Thesis.	Drill.	Agricult. Chem.
	2		History.	Metaphysics.	Astron. Econ. Geol.	Drill.	Thesis.
	3		Polit. Economy.	Mor. Philosophy.	Astron. Econ. Geol.	Drill.	Thesis. Photog.

## THE ACADEMY.

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WALTER KENNEDY PATTERSON,

PRINCIPAL.

JOHN LEWIS LOGAN,

JOSEPH MORTON DAVIS,

VICTOR EMANUEL MUNCY,

ASSISTANTS.

## COURSES OF STUDY.

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### I. SCIENTIFIC, AGRICULTURAL, AND ENGINEERING COURSE.

FIRST YEAR — Arithmetic, Robinson's Complete ; Algebra, Wentworth's Higher, to Chapter XI.; Political and Descriptive Geography, Butler's Complete; History of the United States, Eggleston; English Grammar, Patterson's Advanced.

SECOND YEAR — Arithmetical Problems, Robinson ; Algebra, Wentworth's Higher, to Chapter XXII.; Plane Geometry, Wentworth, Books I. and II.; Physical Geography, Tarr ; General History, Anderson ; Rhetoric, Williams ; Synonyms, Graham.

### II. CLASSICAL AND NORMAL COURSE.

FIRST YEAR — Latin Grammar, Smiley and Storke's ; Viri Romæ or Scudder's Gradatim or D'Ooge's Easy Latin ; White's Beginner's Greek Book ; Arithmetic, Robinson's Complete ; Algebra, Wentworth's Higher, to Chapter XI.; English Grammar, Patterson's Advanced.

SECOND YEAR — Latin Grammar continued ; Nepos, Cæsar, Kelsey ; Daniell's New Latin Composition ; Greek Grammar continued ; Jacobs' Greek Reader ; Xenophon's Anabasis, Kelsey ; Arithmetical Problems, Robinson ; Algebra, Wentworth's Higher, to Chapter XXII.; Plane Geometry, Wentworth, Books I. and II.; Rhetoric, Williams ; Synonyms, Graham.

## SCHEDULE OF STUDIES IN THE ACADEMY.

## SCIENTIFIC, AGRICULTURAL, AND ENGINEERING.

FIRST HOUR.		SECOND HOUR.	THIRD HOUR.	FOURTH HOUR.	FIFTH HOUR.	SIXTH HOUR.
FIRST YEAR.	English Grammar.	History, Geography.	Arithmetic.	Algebra.	Military Science.	
	English Grammar.	History, Geography.	Arithmetic.	Algebra.	Military Science.	
SECOND YEAR.	Rhetoric.	Algebra.	Physical Geography.	Arithmetic.	Military Science.	
	Rhetoric, Synonyms.	Algebra.	History.	Geometry.	Military Science.	

## CLASSICAL AND NORMAL.

FIRST YEAR.	English Grammar. Greek Grammar.	Latin Grammar.	Arithmetic.	Algebra.	Military Science.	
	English Grammar. Greek Grammar.	Latin Grammar.	Arithmetic.	Algebra.	Military Science.	
SECOND YEAR.	Rhetoric.	Algebra.	Viri Romæ. Nepos.	Arithmetic.	Military Science.	Greek Reader.
	Rhetoric, Synonyms.	Algebra.	Cæsar. Latin Composition	Geometry.	Military Science.	Anabasis.

The Academy is under the immediate direction and management of a Principal and three Assistants, all of whom are experienced professional teachers.

The pupils are subject to the same rules and regulations as the students of the College. Their attendance at the College is required only during the hours of recitation and other prescribed College exercises, such as chapel, drill, etc., the preparation of their lessons being made elsewhere.

The courses of instruction in the Academy are provided for those who enter directly from the common schools, and are intended to supply the necessary training intermediate between the course of study prescribed by the State Board of Education for the common schools and the Freshman Class of the College.

Applicants for admission to the Academy, if county appointees, must be at least fourteen years of age, and must be provided with credentials of scholarship from the County Superintendent. They must also pass a satisfactory examination in spelling, reading, writing, arithmetic, history of the United States, English grammar, and geography, in order to be admitted.

Other applicants must be at least fifteen years of age, and must have completed the common school course prescribed by the State Board of Education. They must pass a satisfactory examination in spelling, reading, writing, arithmetic to per centage, English grammar through syntax, and geography, in order to be admitted. Applicants from the city should be prepared to pass an examination on all subjects embraced in the first year's Scientific Course in the Academy. Those who enter at any other time than the beginning of the year will be required to pass a satisfactory examination on the work already gone over by the classes which they propose to enter.

Students matriculating in the Academy will be required to pursue one of its prescribed courses of study, and will not be permitted to take any work outside of this course, except on the recommendation of the Principal.

#### ENTRANCE EXAMINATION.

For the benefit of those, other than county appointees, who desire to know the character of the examination which applicants for admission will be required to pass, the following examination papers are submitted as a sample. It is not to be understood that these are the questions on which the pupils will be examined, but that they indicate the attainments necessary to enter the Academy of the College. Those who expect to enter more advanced classes will be required to pass an examination on all that the class which they propose to enter has passed over :



**I. ARITHMETIC.**

Find the greatest common divisor and the least common multiple of 899 and 961.

$$\text{Simplify } 2\frac{1}{4} \times \frac{10\frac{3}{4} - 4\frac{1}{2}}{6\frac{3}{8} \times 7\frac{2}{3}} \div \frac{3\frac{5}{11}}{1\frac{2}{3} + 9\frac{1}{11}}$$

Find the number of bushels that will fill a bin 8.5 feet long, 4.5 feet wide, 3.5 feet deep.

The longitude of Rome is  $12^{\circ} 27' 14''$  east; the longitude of Chicago is  $87^{\circ} 35'$  west; find the difference in time between the two places.

What will be the cost of plastering the walls and ceiling of a room 24 feet 4 inches long, 20 feet wide, and 12 feet 6 inches high, at 27 cents per square yard, if 20 square yards be deducted for doors, windows, and base-board?

If a train at the rate of  $\frac{5}{18}$  of a mile per minute takes  $3\frac{3}{4}$  hours to reach a station, how long will it take at the rate of  $\frac{7}{15}$  of a mile per minute?

A and B can do a piece of work in  $2\frac{1}{2}$  days, A and C in  $3\frac{1}{3}$  days, B and C in  $4\frac{1}{4}$ . Required the time in which all these working together can do the work, and in which each can do the work alone.

A farmer sowed 5 bushels, 1 peck, 1 quart of seed, and harvested from it 103 bushels, 3 pecks, 5 quarts. How much did he raise from a bushel of seed?

Reduce 9 square chains, 11.25 square rods, to the decimal of an acre.

If a bar of iron  $3\frac{1}{2}$  feet long, 3 inches wide,  $2\frac{1}{4}$  inches thick weighs 93 pounds, what will be the weight of a bar  $3\frac{3}{4}$  feet long, 4 inches wide, and  $2\frac{1}{2}$  inches thick?

**II. ENGLISH GRAMMAR.**

Name, define, and give examples of all the parts of speech.

Define a phrase, a clause, and give examples of each.

What are the only verbs that can be in the passive voice? Why?

Write a complex sentence containing a noun clause; one containing an adjective clause; one containing an adverbial clause.

Analyze the following sentence, and parse all the words in full:

"The soldiers of the tenth legion, wearied by their long march, and exhausted from want of food, were unable to resist the onset of the enemy."

**III. GEOGRAPHY.**

What are the circles of the earth?

What are the meridians?

Define latitude and longitude.

What two meridians bound the hemispheres?

Define the two principal forms of government.

Bound North America and describe its political divisions.

Why is the climate of Western Europe different from that of America in same latitudes?

Describe the mountains, principal rivers, and lakes of Asia.

Describe the natural routes of commerce.

**IV. HISTORY.**

What section of the United States was first explored by the Spanish? the French? the English?

Give a concise description of the settlement of Plymouth, Jamestown, New York City, and their distinctive characteristic.

Define Charter, Proprietary, and Royal government as applied to the colonies, and name the colonies that were under each of these forms of government.

Name the three principal causes of the Revolutionary War.

What was the main cause of the War of 1812?

What caused the Mexican War?

Give the leading political differences between the North and the South at the opening of the Civil War.

Name the three departments of the Government under the Constitution, and define the duties of each.

## ASSOCIATIONS.

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### THE UNION LITERARY SOCIETY.

This, the oldest of the four literary associations connected with the State College, was formed in 1872 by the consolidation of the Yost Club and the Ashland Institute, and operates under a charter from the Legislature. It occupies a commodious and well-furnished hall in the main building, and is supplied with a library due in part to an appropriation from the State. Besides the weekly meetings devoted to declamations, essays, and debates, the Society holds on the 22d of February an annual contest in oratory, and awards to the successful competitor a gold medal provided by the alumni.

### THE PATTERSON LITERARY SOCIETY.

This Society, formed in 1887, and named at the suggestion of Gov. Knott in honor of the President of the College, was chartered in 1888. It is provided with a handsome room and a good library. The annual oratorical contest is held on the 26th of March, the birthday of the President, who presents the first prize, a gold medal. The second, also a gold medal, is the gift of Mr. George W. Crum, of Louisville.

### THE PHILOSOPHIAN SOCIETY.

The Philosopher Society, formed by the young women of the College in 1882 for literary improvement and social pleasure, offers, besides the usual weekly meetings, a public entertainment consisting of declamations, essays, criticisms, and orations.

### THE ENGINEERING SOCIETY.

This body, composed of matriculates in either course of engineering, meets on the third Friday of each month. The exercises consist of a paper read by a member on some pertinent topic, followed by a general discussion. During the year the Society is occasionally favored with lectures by experienced engineers not connected with the College.

### THE BIOLOGICAL SOCIETY.

This was the first scientific Society organized in the institution. For a time it was composed chiefly of members of the Faculty and of the staff of the Experiment Station. Recently it has been reorganized and placed under the management of students, still retaining, however, the larger part of the original members.

The objects of the Society are the cultivation of an interest in Natural History and the stimulation of a spirit of original research. The exercises at the monthly meetings consist of essays and discussions.

### THE LINGUISTIC SOCIETY.

This Society, which was organized by students during the last session, meets twice a month for improvement in languages. At each meeting a paper is read on some topic connected with the classics or with one of the leading modern languages or its literature.

### ATHLETICS.

Opportunity for physical exercise and legitimate outdoor sport is afforded by the spacious Athletic Field and Parade Ground. The management of athletics by the students is vested in an Athletic Association formed by the union of the Foot-ball, the Base-ball, and Track-athletic Societies. The officers of these three sub-organizations constitute the managing board of the Athletic Association. The control of athletics by the faculty is secured through their Committee on Athletics, acting under a set of regulations adopted by the Faculty and approved by the Trustees.

## ALUMNI.

1869.

MUNSON, WILLIAM BENJAMIN, B. S., . . . . . Denison, Texas.

1870.

MUNSON, THOMAS VOLNEY, B. S., . . . . . Denison, Texas.

1871.

HARDING, ENOCH, B. S., . . . . . Fort Worth, Texas.

1874.

CARSWELL, ROBERT EMMETT, B. S., . . . . . Decatur, Texas.

DEAN, JOHN ALLEN, B. S., . . . . . Owensboro.

HARDIN, THOMAS ROLLINS, B. S., . . . . . Ruston, La.

SMITH, EDWARD EVERETT, B. S., . . . . . Chicago, Ill.

1875.

BROWN, EDGAR THOMAS, B. S., . . . . . Wichita, Kansas.

1877.

FLOETE, FRANKLIN, B. S., . . . . . Spencer, Iowa.

WARD, BALLARD PRESTON, B. S., . . . . . Speedwell, Va.

1878.

COLE, MOSES SALVADOR, B. S., . . . . . Rivas, Nicaragua.

\*MACKIE, MAHLON, B. S., . . . . . Mt. Sterling.

1879.

BLAKELY, CHARLES GRAHAM, B. S., . . . . . Topeka, Kansas.

HAYS, NAPOLEON BONAPARTE, B. S., . . . . . Pineville.

PERRY, CALEB SYKES, B. S., . . . . . Indianapolis, Ind.

WRIGHT, HENRY MOSES, B. S., . . . . . Rome, Ga.

1880.

CRAWFORD, JAMES, B. S., . . . . . Lexie, Tennessee.

PETER, ALFRED MEREDITH, B. S., . . . . . Lexington.

WELLER, NICHOLAS JOHN, B. S., . . . . . Pineville.

WHATLEY, GEORGE CROGHAN, B. S., . . . . . Birmingham, Ala.

1881.

PENCE, MERRY LEWIS, B. S., . . . . . Lexington.

1882.

BERRY, GEORGE G., B. S., . . . . . Lexington.

DE ROODE, LOUIS KUINDERS, A. B., . . . . . Louisville.

PATTERSON, JOHN LETCHER, A. B., . . . . . Louisville.

RODGERS, EDWARD LEE, A. B., . . . . . Cincinnati, Ohio.

SHACKLEFORD, JOHN ARMSTRONG, A. B., . . . . . Tacoma, Wash.

STOLL, JOHN WILLIAM, A. B., . . . . . Lexington.

\* Deceased.

## 1883.

- \*KING, WILLIAM ELIJAH, B. S., . . . . . Nelson County.  
TAYLOR, JAMES W., A. B., . . . . . St. Louis, Mo.

## 1884.

- EUBANKS, BURTON PENDERGAST, B. S., . . . . . Dallas, Texas.  
GRAVES, CLARENCE SCOTT, B. S., . . . . . Lexington.  
\*JONES, HENRY CLAY, B. S., . . . . . Lexington.  
KASTLE, JOSEPH HOEING, B. S., . . . . . Lexington.  
RAMSEY, RUSSELL THOMAS, B. S., . . . . . London.  
RILEY, OTIS VIOLETTE, B. S., . . . . . Pineville.

## 1885.

- DE ROODE, RUDOLPH JOHN JULIUS, B. S., . . . . . Glen's Falls, N. Y.  
GESS, GEORGE THOMAS, B. S., . . . . . Lexington.  
GORDON, J. CRITTENDEN, B. S., . . . . . Pleasureville.  
LAMBUTH, WILLIAM DAVID, A. B., . . . . . Seattle, Washington.  
SCOTT, JAMES RUSSELL, B. S., . . . . . Lexington.  
THORNBURY, WILLIAM GARLAND, B. S., . . . . . Brooklyn, N. Y.

## 1886.

- MORGAN, THOMAS HUNT, B. S., . . . . . Bryn Mawr, Pa.  
PREWITT, ROBERT LEE, A. B., . . . . . Walnut Hill.  
PREWITT, WILLIAM C., A. B., . . . . . Fort Worth, Texas.

## 1887.

- HIFNER, KEARNEY LEE, B. S., . . . . . Pinkard.  
SHACKLEFORD, THOMAS WHEATLEY, A. B., . . . . . Superior, Wis.

## 1888.

- BARTLETT, FREDERICK VINCENT, B. S., . . . . . Lexington.  
BRYAN, GEORGE GIST, B. S., . . . . . Lexington.  
CURTIS, HENRY ERNEST, B. S., . . . . . Lexington.  
GUNN, BELLE CLEMENT, B. S., . . . . . Springfield, Ohio.  
PAYNE, ROBERT TREAT, B. S., . . . . . Athens.

## 1889.

- ELLERSHAW, EDWARD, A. B., . . . . . Digby, Nova Scotia.  
FRAZER, HUGH MILLER, B. S., . . . . . Lexington.  
\*PATTERSON, WILLIAM ANDREW, B. S., . . . . . Lexington.  
PREWITT, ANNIE GIST, B. S., . . . . . Lexington.  
WALKER, ROBERT BERNIE, B. S., . . . . . Lexington.

## 1890.

- ANDERSON, RICHARD THOMAS, JR., B. S., . . . . . Lexington.  
BAKER, ANNIE JANE, B. S., . . . . . Lexington.  
BROCK, CHARLES ROBERT, B. S., . . . . . London.  
FORSTON, KEENE RICHARDS, B. S., . . . . . Indianapolis.  
GUNN, JOHN WESLEY, C. E., . . . . . Lexington.  
HOEING, CHARLES, A. B., . . . . . Rochester, N. Y.  
WILSON, MARGARET AGNES, B. S., . . . . . Chicago, Ill.  
YATES, JAMES ANDERSON, B. S., . . . . . Ottawa, Kansas.

\* Deceased.



## 1891.

BERRY, HENRY SKILLMAN, B. S., . . . . .	Lexington.
CLARDY, U. L., B. S., . . . . .	Newstead.
MUNCY, VICTOR EMANUEL, B. S., . . . . .	Lexington.
WALLACE, WILLIAM RUSSELL, C. E., . . . . .	Sessions, Miss.
WARNER, B. CALLIE, B. S., . . . . .	Lexington.

## 1892.

COX, ARTHUR MELVILLE, A. B., . . . . .	Cynthiana.
ELKIN, FIELDING CLAY, B. S., . . . . .	Lexington.
HUNT, IRENE LEONORA, B. S., . . . . .	Lexington.
MAXEY, JOHN GEE, A. B., . . . . .	Louisville.
PAGE, WILLIAM SEABURY, C. E., . . . . .	Tacoma, Wash.
POTTINGER, SAMUEL LANCASTER, A. B., . . . . .	Louisville.
*REYNOLDS, FRANK CRAIG, C. E., . . . . .	Lexington.
SCOVELL, FRANK ELMER, C. E., . . . . .	Rosehill, Ill.
SHAW, HIRAM, JR., B. S., . . . . .	Chicago, Ill.
SHELBY, ISAAC PRATHER, C. E., . . . . .	Lexington.
SOUTHGATE, BUTLER TURPIN, A. B., . . . . .	Lexington.

## 1893.

ADAMS, KATHERINE INNES, A. B., . . . . .	Albuquerque, N. Mex.
BRYAN, JOHN IRWIN, B. S.; B. M. E., '95, . . . . .	San Francisco, Cal.
COURTNEY, EDMUND, B. Ped., . . . . .	Louisville.
GUNN, HENRY MARTIN, B. S., . . . . .	Lexington.
HOBODY, WILLIAM COTT, B. S., . . . . .	Delaware City.
JOHNSON, JAMES RICHARD, B. M. E., . . . . .	Lexington.
MCFARLIN, JOHN WILLIAM, B. S., . . . . .	Franklin.
RAILEY, MORTON SANDERS, C. E., . . . . .	Washington, D. C.
ROBERTS, DANIEL STILLWELL, B. Ped., . . . . .	Ekron.
SMITH, DENNY PERRYMAN, B. S., . . . . .	Cadiz.
SPEYER, ROSA, B. S., . . . . .	Lexington.
WARE, CORA E., B. Ped., . . . . .	Pineville, La.
WHITE, MILFORD, C. E., . . . . .	Lexington.
WILLIS, BENJAMIN GRANT, B. S., . . . . .	Lexington.

## 1894.

AULICK, EDWIN CHESTERFIELD, A. B., . . . . .	Morgan.
BRADSHAW, GEORGE DICKIE, B. Ped., . . . . .	Winchester.
BRAND, EDWARD, A. B., . . . . .	East Lake, Ala.
CURTIS, CARLTON COLEMAN, B. S., . . . . .	Lexington.
FAIG, JOHN THEODORE, B. M. E., . . . . .	Lexington.
GARRED, ULYSSES ANDERSON, B. M. E., . . . . .	Chicago, Ill.
GRIFING, EMMA ROSETTA, B. S., . . . . .	Lexington.
HAYS, JAMES MORRISON, A. B., . . . . .	Pineville.
HUGHES, LEONARD SAMUEL, B. S., . . . . .	Louisville.
JONES, MATTISON BOYD, A. B., . . . . .	Lexington.
KEISER, BENJAMIN CHRISTOPHER, B. S., . . . . .	St. Louis, Mo.
KROESING, LILLIE, B. S., . . . . .	Lexington.

\*Deceased.

NEWTON, NATHAN ALEXANDER, B. M. E., . . . . .	Oil City, Pa.
NORMAN, ALBERT CLIFT, B. M. E., . . . . .	Washington, D. C.
OOTS, NINA PEARL, B. S., . . . . .	Lexington.
SHELBY, KATHERINE, B. S., . . . . .	Lexington.
SLEDD, DORA, B. Ped., . . . . .	Lexington.
TRIGG, WILLIAM CLAY, C. E., . . . . .	New Columbus.
WARNER, HATTIE HOCKER, B. S., . . . . .	Delaware City.

## 1895.

ATKINS, MARY LYONS, B. S., . . . . .	Lexington.
BARBER, LANIS SPURGEON, . . . . .	Kiddville.
BUSH, HENRY SKILLMAN, B. S., . . . . .	Lexington.
DIDLAKE, MARY LEGRAND, B. S., . . . . .	Lexington.
DOWNING, JOSEPH MILTON, B. M. E., . . . . .	Lexington.
FAULKNER, JOHN VICK, C. E., . . . . .	Simon, Ind. Ter.
FITZHUGH, LUCY STUART, A. B., A. M., '96 . . . . .	Bradford, Pa.
FOSTER, NETTIE BELLE, B. S., . . . . .	Lexington.
KING, ELIZABETH WHITTINGTON, A. B., A. M., '96 . . . . .	Lexington.
LEWIS, THOMAS STONE, A. B., . . . . .	Lexington.
MCCONATHY, JAMES ASA, B. S., . . . . .	Kirklevington.
MCCAUGHLIFFE, MARY CATHERINE, B. S., . . . . .	Lexington.
MURRILL, PAUL INGOLD, B. S., . . . . .	Ann Arbor, Mich.
NEWMAN, ROBERTA, B. S., . . . . .	Muir.
REYNOLDS, NELLIE ANNA, B. S., . . . . .	Lexington.
STOLL, RICHARD CHARLES, A. B., . . . . .	Lexington.
WEAVER, RUFUS LEE, B. S., . . . . .	New York.
WILMOTT, JOHN WEBB, A. B., . . . . .	Lexington.
WOODS, JOHN JOSEPH, A. B., . . . . .	Lexington.

## 1896.

ALFORD, SMITH EDISON, A. B., . . . . .	Lexington.
CARNAHAN, JAMES WILLIAM, A. B., . . . . .	London.
CASE, DANIEL MORRIS, B. M. E., . . . . .	Williamstown.
DAVIDSON, HARRY ADOLPH, C. E., . . . . .	Louisville.
DEAN, THOMAS ROLAND, A. B., . . . . .	Ann Arbor, Mich.
DUCK, ALICE, B. S., . . . . .	Lexington.
DUNLAP, JOHN JENNINGS, A. B., . . . . .	Independence.
KERRICK, FELIX, A. B., . . . . .	Hardinsburg.
LYLE, JOEL IRVIN, B. M. E., . . . . .	Ludlow.
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TRIGG, JOHN HENRY, B. S., . . . . .	New Columbus.
WOODS, JOHN WESLEY, A. B., . . . . .	Webbville.

## 1897.

ALLEN, WILLIAM RAYMOND, A. B., . . . . .	Cincinnati, Ohio.
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\* Deceased.

BULLOCK, SAMUEL ARCHIBALD, B. M. E., . . . . .	Louisville.
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BROCK, GEORGE GREEN, A. B., . . . . .	Bush.
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\* Deceased.

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## ROSTER.

M. B. JONES, A. B., CAPTAIN AND ADJUTANT STATE COLLEGE BATTALION, 1893-94,  
*Commandant.*

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Clark, Mary Eva, B. S., . . . . .	Scientific, . .	Lexington.
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Jones, Mattison Boyd, A. B., . . . . .	Scientific, . .	London.
King, Margaret Isadore, A. B., . . . . .	Classical, . .	Lexington.
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Graves, Leila May, . . . . .	Scientific, . .	Lexington.
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Lyle, Cornelias Railey, . . . . .	Civ. Eng., . . .	Lexington.
Lyne, William, . . . . .	Mech. Eng., . . .	Brannon.
McKee, Neal Trimble, . . . . .	Mech. Eng., . . .	Mt. Sterling.
McMurray, Arthur K., . . . . .	Mech. Eng., . . .	Cayce.

McLaughlin, Margaret, . . . . .	Normal, . . . . .	Lexington.
Maddox, Daniel Campbell, . . . . .	Classical, . . . . .	State Line.
Martine, John Chilton, . . . . .	Mech. Eng., . . . . .	Louisville.
Moorman, Robert Emmett, . . . . .	Civ. Eng., . . . . .	Glendean.
Murray, Mary Woodward, . . . . .	Classical, . . . . .	Lexington.
Naive, Miriam Wynter, . . . . .	Scientific, . . . . .	Lexington.
Neely, Harry David, . . . . .	Civ. Eng., . . . . .	Ballard.
O'Mahony, Katherine Marie, . . . . .	Classical, . . . . .	Lexington.
Parker, Katherine Burke, . . . . .	Classical, . . . . .	Frankfort.
Peek, Alexander Headley, . . . . .	Mech. Eng., . . . . .	Lexington.
Perkins, Maude Anna, . . . . .	Classical, . . . . .	Lexington.
Pinnel, Osborn Richard, . . . . .	Normal, . . . . .	Hume, Ill.
Reese, Robert Rufus, . . . . .	Classical, . . . . .	Cynthiana.
Rice, Elizabeth Katherine, . . . . .	Classical, . . . . .	Carlisle.
Richardson, John Cabel Breckinridge, . . . . .	Classical, . . . . .	Mt. Sterling.
Roche, Thomas Francis, . . . . .	Classical, . . . . .	Paris.
Rodes, Nettie Falconer, . . . . .	Classical, . . . . .	Lexington.
Sasser, Arthur, . . . . .	Scientific, . . . . .	London.
Sasser, Thomas Elijah, . . . . .	Normal, . . . . .	Tuttle.
Schaeffer, Carl Heinrich, . . . . .	Mech. Eng., . . . . .	Lexington.
Scott, Wellington Friend, . . . . .	Classical, . . . . .	Lexington.
Shephard, Chowning, . . . . .	Civ. Eng., . . . . .	Worthville.
Smedley, John William, . . . . .	Classical, . . . . .	Fort Spring.
Smith, Chester Martin, . . . . .	Mech. Eng., . . . . .	Elizabethtown.
Spencer, Charles Abraham, . . . . .	Mech. Eng., . . . . .	Lexington.
Stone, Albert Dicky, . . . . .	Civ. Eng., . . . . .	Paris.
Stone, Stewart Basham, . . . . .	Classical, . . . . .	Lexington.
Tandy, Clark Howell, . . . . .	Classical, . . . . .	Hopkinsville.
Tarr, William Orr, . . . . .	Civ. Eng., . . . . .	Paris.
Taylor, Flemen Coffee, . . . . .	Mech. Eng., . . . . .	Beaver Dam.
Taylor, Henry Edmund, . . . . .	Scientific, . . . . .	Fulton.
Teegarden, Robert Edgar, . . . . .	Mech. Eng., . . . . .	Augusta.
Threlkeld, Lal Duncan, . . . . .	Classical, . . . . .	Salem.
Thomas, Smith Riley, . . . . .	Mech. Eng., . . . . .	New Castle.
Thomson, Robert Johnson, . . . . .	Scientific, . . . . .	Frost.
Todd, Brutus, . . . . .	Classical, . . . . .	Richmond.
Twyman, George, . . . . .	Mech. Eng., . . . . .	Lexington.
Warnock, Thomas Edwin, . . . . .	Mech. Eng., . . . . .	Ellerslie.
Whitehead, Albert Lee, . . . . .	Scientific, . . . . .	Pataskala, O.
Whitfield, Nellie Herbert, . . . . .	Scientific, . . . . .	Lexington.
Wickliffe, Thompson Flournoy, . . . . .	Scientific, . . . . .	Louisville.
Wiley, Bettie, . . . . .	Classical, . . . . .	Lexington.



## NORMAL STUDENTS.

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### FOR THE STATE DIPLOMA.

Gordon, Frances Jean, . . . . .	Lexington.
Saunders, Charley Winston, . . . . .	Hickman.

### FOR THE STATE CERTIFICATE.

Ball, Samuel Thompson, . . . . .	New Liberty.
Barrett, Virgil, . . . . .	Denton.
Bell, William Cecilius, . . . . .	Ensor.
Biggerstaff, Margaret Bell, . . . . .	Ludlow.
Brown, Edith Rosalie, . . . . .	Madisonville.
Burch, Dyson Walter, . . . . .	Garrett.
Combest, John Dowell, . . . . .	Phil.
Elam, Shelby Smith, . . . . .	White Oak.
Fort, John Edgar, . . . . .	Argillite.
Hahn, Lizzie, . . . . .	Frankfort.
Hubbard, Isaac Milton, . . . . .	Waco.
Ingram, Robert, . . . . .	Sweet Owen.
Lawrence, James Craven, . . . . .	Shreve.
Marcum, Columbus Bishop, . . . . .	Pulaski.
Mathews, Mrs. Celeste Benham, . . . . .	Crecelius.
Merchant, Margaret Bell, . . . . .	Frankfort.
Miller, Clarence, . . . . .	Irvine.
Murray, Charles O., . . . . .	Lexington.
Riley, Laura Bell, . . . . .	Henderson.
Stephenson, Elmer Dester, . . . . .	York.
Stephenson, James Clayton, . . . . .	York.
Stevenson, Otie Lucille, . . . . .	Dodge.
Sweeney, Nannie Beatrice, . . . . .	Sinai.
Threlkeld, Augustus, . . . . .	Mason.
Tilton, Edna, . . . . .	Frances.
Tribble, Mattie Kate, . . . . .	Thomson's.
Ware, Amanda Amma, . . . . .	Pulaski.
Walker, Viola, . . . . .	Grant.
White, Robert Henry, . . . . .	Mavity.
Williams, Mary Frances, . . . . .	Ripynville.
Wilson, Thomas Jackson, . . . . .	Bradfordsville.

### FOR THE COUNTY CERTIFICATE.

Alphin, John Martin, . . . . .	Holbrook.
Alphin, Winfield Scott, . . . . .	Holbrook.
Anderson, Lee, . . . . .	Spencer Station.

Averitt, James Peak, . . . . .	Milton.
Bell, Roy James, . . . . .	Ensor.
Bennett, Benjamin, . . . . .	Williamsburg.
Browning, Grigsby Parker, . . . . .	Neave.
Bush, Mattie Lewis, . . . . .	Waco,
Carpenter, Annie Elizabeth, . . . . .	Lexington.
Castillo, Annie Elizabeth, . . . . .	Steubenville.
Castillo, Luda Cowan, . . . . .	Steubenville.
Chambers, Charles Howard, . . . . .	Mt. Sterling.
Chilton, Mrs. Lola Adeline, . . . . .	Ashbrook.
Clasby, Mary Louise, . . . . .	Montrose.
Curtsinger, William Bernard, . . . . .	Fancy Farm.
English, Evarts Bland, . . . . .	Stephensport.
Faris, George Christie, . . . . .	Kirksville.
Fennell, Nellie, . . . . .	Cynthiana.
Fish, Ina Theodore, . . . . .	Georgetown.
Frazer, Shelby Hartwell, . . . . .	Covington.
Garner, George Perkins, . . . . .	Humphrey.
Gibbins, Maud, . . . . .	Lexington.
Gilbert, Rhoda Marie, . . . . .	Speedwell.
Gillam, Stephen Jesse, . . . . .	Jarvis' Store.
Gilliam, Mrs. Annie, . . . . .	Humphrey.
Gilmore, Charles Robert, . . . . .	Valley Oak.
Griffin, Albert Sidney, . . . . .	Philpot.
Harp, Jessie Laura, . . . . .	Lexington.
Hatter, Claud Melnow, . . . . .	Poplar Hill.
Haydon, Loulie, . . . . .	Swallowfield.
Hifner, Mamie Bell, . . . . .	South Elkhorn.
Hoskins, Harry Moris, . . . . .	Sweet Owen.
Lester, William Everett, . . . . .	Kendall.
Long, Callie, . . . . .	Ruthton.
McGovern, Annie Teresa, . . . . .	Lexington.
Meador, Katherine Colson, . . . . .	Lexington.
Metcalf, Pickett, . . . . .	Camargo.
Moore, Mark, . . . . .	Pine Knot.
Morgan, Lizzie Watkins, . . . . .	Abbott.
Mothershead, Mary, . . . . .	Earlington.
Murray, Margaret Frances, . . . . .	Loradale.
Payne, Claude Bryant, . . . . .	Payne's Depot.
Peratt, Charles Oscar, . . . . .	Hill Top.
Phelps, Tina, . . . . .	Gilpin.
Pointer, John Monroe, . . . . .	Dabney.
Pointer, Charles Edwin, . . . . .	Tompkinsville.
Rose, James Lenville, . . . . .	Booneville.
Rankin, Mabel Ellen, . . . . .	Eminence.
Ritchie, Jack Marion, . . . . .	Garrett.

Sellers, Wallace Johnson, . . . . .	Brannon.
Shrout, Jemima, . . . . .	Sprout.
Singleton, William Edward, . . . . .	Eubanks.
Stevenson, Nancy Temperance, . . . . .	Jeffersonville.
Stockton, Mary Dorsie, . . . . .	Waco.
Taylor, John Will, . . . . .	Breck.
Thornton, John Charles, . . . . .	Truesville.
Thomas, Garret Theodore, . . . . .	Proctor.
Trimble, Lucy Lillian, . . . . .	Camargo.
Tuggle, Mary Dee, . . . . .	Cleveland.
Turner, Job Darbin, . . . . .	Minnie.
Tyree, Clarence Edward, . . . . .	Union Hall.
Ware, Krille, . . . . .	Brannon.
Weeks, Emily Botts, . . . . .	Lexington.
Whitinghill, Roscoe Timoleon, . . . . .	Fordsville.
Williams, Cora, . . . . .	Lexington.
Williams, Sophia Charlotte, . . . . .	Maysville.
Willmott, Hattie Belle, . . . . .	Lexington.
Wood, Oliver, . . . . .	Vernon.
Woolfork, Orla Cobern, . . . . .	Brandenburg.
Young, Menon Lee, . . . . .	Baldwin.

## UNCLASSIFIED.

Alexander, Hollie Witherspoon, . . . . .	Normal, . . . . .	Canby.
Burnett, Aubrey Dick, . . . . .	Normal, . . . . .	Grayson.
Brown, Dora Eunice, . . . . .	Normal, . . . . .	Madisonville.
Fortney, William Frank, . . . . .	Normal, . . . . .	Barbourville.
Jackson, John Hunt, . . . . .	Normal, . . . . .	New Columbus.
Johnson, Nancy Smith, . . . . .	Classical, . . . . .	Lexington.
Lawhorn, Jessie Sherman, . . . . .	Normal, . . . . .	Yosemite.
Pedigo, Mary Elizabeth, . . . . .	Normal, . . . . .	Edmonton.
Rankin, Bella Walker, . . . . .	Normal, . . . . .	Rankin.
Riley, Laura Belle, . . . . .	Normal, . . . . .	Henderson.
Shackleford, Nannie, . . . . .	Classical, . . . . .	Gunnison, Col.
Shelby, Georgia Folden, . . . . .	Normal, . . . . .	Henderson.
Stacy, James Dixon, . . . . .	Normal, . . . . .	Sassafras.
Taylor, Darius David, . . . . .	Scientific, . . . . .	Slate Mills, Va.
Ware, Cornelius, . . . . .	Normal, . . . . .	Pulaski.
Whayne, Eugene Coleman, . . . . .	Agricultural, . . . . .	Oakton.

## IN THE SHORT COURSE IN AGRICULTURE.

Holt, William Harrison, . . . . .	Frankfort.
Hunter, Hugh Samuel, . . . . .	Versailles.
Poynts, Elmer Wostol, . . . . .	Sherman.

## THE ACADEMY.

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### SECOND YEAR STUDENTS.

*Arnett, David William, . . . . .	Troy.
Atkins, Bessie Ryland, . . . . .	Lexington.
*Blackford, William Woods, . . . . .	Nicholasville.
Bullock, Barry, . . . . .	Lexington.
Cassidy, Henry Duncan, . . . . .	Lexington.
*Chapman, Henry Feckleheim, . . . . .	Lexington.
Clarke, Clarence Cornell, . . . . .	North Pleasureville.
Clay, Annie Gratz, . . . . .	Lexington.
Crume, Wallace William, . . . . .	Lebanon.
Dodd, Charles William, . . . . .	Walnuthill.
*Donan, David Cummings, . . . . .	Three Springs.
Dowling, Edward Thomas, . . . . .	Lexington.
Ethington, James William, . . . . .	Defoe.
*Featherstone, Oscar Newton, . . . . .	Lexington.
Finneran, James Cornelius, . . . . .	Midway.
Gibson, James Syer, . . . . .	Dayton.
Gilchrist, Margaret Cornelison, . . . . .	Lexington.
Gill, Mary Cecilia, . . . . .	Lexington.
Hibler, Annie Croxton, . . . . .	Paris.
Howard, William Virgil, . . . . .	Greencastle.
Johnson, Ennis Esten, . . . . .	Fern Creek.
Kriegel, William, . . . . .	Lexington.
Kroell, Oscar Robert, . . . . .	Louisville.
Lackey, Twyman Landis, . . . . .	Canton.
Land, Edgar Poe, . . . . .	Lexington.
Loughridge, Sidney Allen, . . . . .	Lexington.
McLaughlin, James Daniel, . . . . .	Lexington.
McLoed, James Vester, . . . . .	Moscow.
McVean, Donald Grant, . . . . .	Grant's Bend.
*Marshall, Isabella West, . . . . .	Lexington.
Miller, John Paul, . . . . .	Lancaster.
Pryse, Wayne, . . . . .	Beattyville.
Railey, Edward Bayard, . . . . .	Lexington.
Sasser, James Tilford, . . . . .	London.
Shannon, Bernadette Mary Lucy, . . . . .	Lexington.
Smith, Roger Hanson, . . . . .	Fort Spring.

\* Had two classes in the College.

Snyder, Edgar Owen, . . . . .	Bloomfield.
Stackhouse, Clifton Carr, . . . . .	Lexington.
Swope, Armistead Milner, . . . . .	East Hickman.
Thompson, Butler Fauntleroy, . . . . .	Lexington.
Wheat, Oma Bell, . . . . .	Lexington.
Woodford, Earl Thomas, . . . . .	Pine Grove.
Woodford, Leon Catesby, . . . . .	Pine Grove.
Wurtele, Edward Conrad, . . . . .	Louisville.

## FIRST YEAR STUDENTS.

Allen, Curtis Wood, . . . . .	Nepton.
Ball, Edwin Scott, . . . . .	Lexington.
Berlinski, Max Stucky, . . . . .	Lexington.
Blue, Lynn Earl, . . . . .	Slaughtersville.
Buchanan, E D, . . . . .	Payne's Depot.
Buchanan, Samuel Bryant, . . . . .	Payne's Depot.
Carver, James Lafayette, . . . . .	Green Grove.
Clark, Harry, . . . . .	Hatton.
Clarkson, Charles James, . . . . .	Lexington.
Cornelison, Rex Platt, . . . . .	Symsonia.
Crenshaw, Robert Logan, . . . . .	Lexington.
Dalton, James Earl, . . . . .	Bordley.
D'Anna, Victor Emanuel, . . . . .	Lexington.
Denton, Elliott Jackson, . . . . .	Sebree.
Downing, Fannie Cowden, . . . . .	Lexington.
Downing, Irene Theodosia, . . . . .	Lexington.
Duvall, Louis Eugene, . . . . .	Bowling Green.
Gibbs, Cora Alice, . . . . .	Crooks.
Hall, Everette, . . . . .	Stanford.
Hanley, Robert Emmett, . . . . .	Lexington.
Hare, Starkey Sharp, . . . . .	Kirklevington.
Hostetter, Frank, . . . . .	Lexington.
Hurst, Mabel, . . . . .	Donerail.
Ireland, Emra Hobbs, . . . . .	Skillman.
Ireland, William Benton, . . . . .	Skillman.
Jacob, Walter, . . . . .	Louisville.
Jones, James Gordon, . . . . .	Gracey.
Kearns, Patrick Michael, . . . . .	Greendale.
Lancaster, Joseph Woolfolk, . . . . .	Lexington.
Landry, Leon Joseph, . . . . .	New Iberia, La.
Lester, Joshua Dorrell, . . . . .	Guthrie.
Loughridge, William Benjamin, . . . . .	Lexington.
Marshall, Alfred West, . . . . .	Lexington.
Metcalf, Robert Bela, . . . . .	Lexington.
Montgomery, Francis Joseph, . . . . .	Lexington.



Mulligan, Denis, . . . . .	Lexington.
Murray, Alexander Perkin, . . . . .	Bowling Green.
Payne, Walter Shaefer, . . . . .	Payne's Depot.
Philips, James Madison, . . . . .	Stanford.
Reese, Samuel Thomas, . . . . .	Trenton.
Richardson, Orla Coburn, . . . . .	Guston.
Sasser, Lillie Cleveland, . . . . .	London.
Scearce, Mary Florence, . . . . .	Lexington.
Scherffius, Benjamin Franklin, . . . . .	Lynnville.
Schneider, Fred Louis, . . . . .	Hikes Point.
Souther, William Keene, . . . . .	Constance.
Stalker, Henry Dowdall, . . . . .	Pleasureville.
Sugg, John Francis, . . . . .	Ellisville.
Taliaferro, Robert Ryland, . . . . .	Tappahannock, Va.
Tannian, Eugene Albert, . . . . .	Vanceburg.
Vaughan, Sterling Clark, . . . . .	Sapp.
Walker, Archibald Kavanaugh, . . . . .	Point Leavell.
Williams, Charles Louis, . . . . .	Chilesburg.
Wills, Willard Claude, . . . . .	Pleasureville.
Wurtele, Henry Joseph, . . . . .	Louisville.

## REGULATIONS.

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### TRAVELING EXPENSES OF STUDENTS.

By the terms of the recent legislation upon the Agricultural and Mechanical College of Kentucky, a county appointee is entitled to have his traveling expenses from home to the College and return paid by the College, on the following conditions :

1st. He must be appointed according to law, a copy of which is in the hands of each County Superintendent of Schools.

2d. He must travel from home to the College by the shortest, least expensive, and most expeditious route, and take receipts for all necessary expenses of travel, depositing the same, upon arrival, with the President of the College.

3d. He must present himself for matriculation within one week after the beginning of the fall term of the collegiate year.

4th. He must bring a certificate of good moral character, signed by two or more well-known and responsible citizens of his county.

5th. He must pass creditably the entrance examination required for admission.

6th. He must remain a student of the College for ten consecutive months, or one collegiate year.

7th. He must maintain during the collegiate year a good moral character, and such class standing as will enable him to pass all final examinations.

8th. He must sign a declaration at the end of the collegiate year that he has not knowingly violated any of the regulations, involving his moral character as a student, nor been a party directly or indirectly to the injury of property on the College grounds or in the College buildings.

If at the end of the collegiate year the foregoing conditions have been complied with, the President of the College shall certify the fact to the Treasurer of the College, who, upon said certificates as vouchers, shall pay to the appointee the amount shown by the receipts aforesaid, and in addition thereto the sum for discharging the necessary expenses to be incurred in returning home.

### COLLEGE EXPENSES.

The necessary expenses of a student while at College need not exceed the following estimates. As a rule the less pocket-money allowed by parents or guardians the better it is for the pupil. When supplies of pocket-money are kept short the opportunity for contracting vicious habits is correspondingly diminished. Students should not be allowed by their parents to create any debts. All moneys intended for the use of the students should be deposited with the Commandant.

For a county appointee, occupying a room in the dormitory and boarding in the common mess, the necessary expenses are as follows :

Tuition free, . . . . .	\$000 00
Matriculation free, . . . . .	000 00
Room rent free, . . . . .	000 00
Use of furniture in room, . . . . .	2 50
Washing, about, . . . . .	10 00
Uniform, . . . . .	19 00
Board, 38 weeks at \$2.25 per week, . . . . .	85 00
Books, about, . . . . .	8 00
Total, . . . . .	<u>\$124 50</u>

Each room must be provided by each occupant thereof, *at his own expense*, with a good mattress, three comforts or blankets, one pillow, three pillow-slips, four sheets, looking-glass, blacking-brush, hair-brush, clothes-broom or brush. Some of these articles may be brought from home by the student.

For students who are not supplied with appointments from the Legislative Representative Districts of the Commonwealth, and who board in private families, the necessary expenses will be as follows :

Tuition fee, . . . . .	\$15 00
Matriculation fee, . . . . .	5 00
Board and lodging, 38 weeks, at \$3.50 to \$4 per week, . . . . .	133 00 to \$152 00
Washing, . . . . .	10 00
Uniform, . . . . .	19 00
Books and stationery, . . . . .	10 00
Total, . . . . .	<u>\$192 00 to \$201 00</u>

Those who occupy rooms in the dormitory pay \$6.50 each (yearly) for the use of a room and its furniture. A standing deposit of \$5 is required from each student, which deposit is refunded when his connection with the College is terminated, less the amount which may be assessed against him for damages done to the buildings, furniture, or premises. All damages, injuries, defacements, etc., which rooms and furniture in the dormitory sustain during occupancy will be charged to the occupant thereof. All injuries, damages, defacements, etc., which the halls and dining-room sustain will, unless specifically traced, be charged to the occupants of the respective sections collectively.

#### BOARDING.

For the accommodation of students sent as beneficiaries of Legislative Representative Districts of the State, rooms for one hundred and forty students are provided in the dormitories. To these good, substantial board is furnished at \$2.25 per week, payable weekly in advance ; but no student under seventeen years of age will be permitted to room in the dormitories unless all of his classes shall be in one of the regular collegiate courses. Good boarding, with fuel, lights, and furnished room, can be obtained in private families at rates varying from \$3.50 to \$4 per week.

The students who board in the dormitories are, for business purposes, organized at the beginning of the collegiate year under a Chairman and Secretary of their own choice, whose successors are elected on the first Tuesday of each term, and who serve for one term. At the business meeting, held on Tuesday night of each week, the weekly dues, \$2.25, are paid. The boarding department is managed by a Board consisting of the President of the College, the Commandant, a Treasurer, who is a member of the Faculty, and into whose hands all the weekly dues are placed when collected, a Steward, and the Chairman and Secretary selected by the students. It will thus be seen that the boarding department has no official connection with the College authorities. The College, as such, does not board the students, and is in no sense responsible for any debts created by the boarding department. Three members of the Faculty, in their individual capacity, assist in the management of its funds.

No provision is made for women in the dormitories.

#### FREE TUITION, BENEFICIARIES.

Each Legislative Representative District is allowed to send, on competitive examination, *one properly prepared student* each year, to this College, free of charge for tuition.

A statement for the guidance of County Superintendents: 1. If a county forms one or more than one Legislative Representative District, each district is entitled to keep four students in the College and four in the Normal School free of tuition.

2. If a Legislative Representative District embraces more than one county, each county is entitled to keep four students in the College and four in the Normal School free of tuition.

Beneficiaries are appointed on competitive examination. A Board of Examiners is appointed for this purpose by the County Superintendent of common schools. The results of examination are reported to the Superintendent, who, from the data thus furnished, selects the appointee. Examinations are made upon subjects transmitted to the County Superintendent by the Faculty of the College. One appointment is made each year.

Appointments are made by the County Superintendent between the first day of June and the first day of August of each year. Appointments when made should be immediately certified to the President of the College.

Appointments for the College proper, viz., the Agricultural, Mechanical Engineering, Civil Engineering, Scientific, Classical, and Normal Collegiate courses, are all valid for the term of years necessary to complete the course of study in which the appointee matriculates. This includes the course in the Academy.

It follows from the above that a county which makes its appointments regularly according to law will have for the session of 1893-4 one appointee in the College, for the session of 1894-5 two appointees, for the session of 1895-6 three appointees, for the session of 1896-7

four appointees. When the first appointee completes his course, or ceases to be a student, another appointee takes his place. When the quota of a county is full it will have at least four appointees in regular attendance.

Each appointee is required to pass an entrance examination at the College on the subjects comprising all that is embraced in Arithmetic, English Grammar, Geography, and United States History in the Common School Course.

All persons are eligible between the ages of fourteen and twenty-four who have completed the Common School Course—preference being given to young men or women whose means are limited, to aid whom this provision is especially intended.

Any person not an appointee may enter the college on payment of fees, but no one who is not an appointee receives traveling expenses or is exempt from payment of fees.

#### **APPOINTEES TO THE NORMAL COURSE.**

The law makes provision for the appointment of four teachers, or persons preparing to teach, each year. Appointments may be made and certified to the President of the College between the first day of July and the thirty-first day of December of each year.

Appointments to the Normal School are tenable for one year.

Applicants for appointments are examined by a Board of Examiners appointed by the County Superintendent on subjects transmitted by the Faculty, viz., upon Arithmetic, English Grammar, United States History, and Geography. They should not be less than seventeen years of age. They are also required to pass an entrance examination at the College. They must likewise bring certificates of good moral character.

Matriculates of the Normal Department will be required to sign an obligation to teach in the Common Schools of Kentucky for as many months as they receive free tuition.

#### **SPECIAL COURSES OF STUDY.**

Special courses of study are not provided for in the Academy, the Normal School or the College proper; provided, however, that persons who have passed the age of twenty-four years, the limit below which appointments as beneficiaries under the law must be made, may under certain conditions be allowed to pursue selected studies without matriculating in one of the regular courses of the College.

#### **CHANGE OF CLASSIFICATION.**

No change of classification is allowed during the session.

#### **AFFILIATED SCHOOLS.**

Schools, whether public or private, may be accredited in accordance with a resolution of the Faculty providing that graduates of these may be exempted from entrance examinations to the College where the heads of these schools have complied with certain conditions.



Further, the Board of Trustees have made an annual award of a free scholarship to the pupil in highest class standing. This scholarship entitles the recipient to free tuition. If, in addition, the holder of a scholarship obtains the "County Appointment," he is entitled to free room in one of the dormitories and free traveling expenses.

A revised list of these schools is appended:

### PUBLIC HIGH SCHOOLS.

- † Ashland, J. M. Superintendent.
- † Bellevue, J. M. Superintendent.
- † Carlisle, W. F. Ra. Superintendent.
- † Cattlettsburg, J. B. Leech, Superintendent.
- † Corydon, C. E. Dudley, Superintendent.
- † Covington, John Morris, Superintendent.
- † Cynthiana, C. A. Leonard, Superintendent.
- † Dayton, F. S. Alley, Superintendent.
- † Elizabethtown, A. R. Thomas, Superintendent.
- || Elkton, Henry L. Trimble, Superintendent.
- † Flemingsburg, J. T. Leahy, Superintendent.
- † Frankfort, McHenry Rhoads, Superintendent.
- † Harrodsburg, C. W. Bell, Superintendent.
- † Henderson High School, W. B. Tharp, Principal.
- † Hopkinsville, Livingston McCartney, Superintendent.
- † Lawrenceburg, H. V. Bell, Superintendent.
- Lexington, Rogers Clay, Superintendent.
- † Johnson High School, W. K. Shelby, Principal.
- † Dudley High School, Col. Graves, Principal.
- Louisville, E. H. Mark, Superintendent.
- † Female High School, W. H. Bartholomew, Principal.
- † Male High School, R. P. Halleck, Principal.
- † Manual Training High School, H. G. Brownell, Principal.
- † Ludlow, Aaron Grady, Superintendent.
- † Marion, Charles Evans, Superintendent.
- † Maysville Male High School, G. E. Hutchins, Principal.
- † Maysville Female High School, Miss Fanny L. Gordon, Principal.
- † Middlesboro, S. L. Frogge, Superintendent.
- † Morganfield, Frank Cheek, Superintendent.
- † Mt. Sterling, Mrs. N. K. Hibler, Principal.
- † Newport, John Burk, Superintendent.
- † Nicholasville, R. G. Lowry, Superintendent.
- † Owensboro, James McGinniss, Superintendent.
- † Paducah, Geo. O. McBroom, Superintendent.
- || Paintsville, J. F. Bailey, Principal.
- † Paris, E. W. Weaver, Superintendent.
- † Somerset, Alfred Livingston, Superintendent.
- † Warsaw, A. D. Fleshman, Superintendent.
- † Winchester, R. M. Shipp, Superintendent.

### PRIVATE ACADEMIES, COLLEGIATE INSTITUTES, ETC.

- \* Cynthiana, Smith's Classical School, N. F. Smith, Principal.
- † Fulton, Carr Institute, C. W. Oldham, Principal.
- † Lexington, Private School, Miss Ella Williams, Principal.
- † Lexington, Private School, Miss McElhinny, Principal.

- \* Lexington, Private School, Miss Lucy S. Collier, Principal.
- \* Lexington, Alleghan Academy, A. N. Gordon, Principal.
- \* Louisville, St. Xavier's College, Bro. James, Principal.
- \* Nicholasville, Jessamine Institute, Mrs. Vineyard, Principal
- † Owenton, Owenton High School.
- \* Paris, Boys' School, Prof. William Yerkes, Principal.
- † Stanford, Stanford Male Academy, W. J. Craig, Principal.
- \* Versailles, Rose Hill Seminary, Miss Gillie Crenshaw, Principal.
- \* Williamsburg, Williamsburg Institute, Dr. E. E. Wood, President.
- † Williamsburg, Williamsburg Academy, Prof. Chas. H. Stevens, Principal.
- \* Educational Department Y. M. C. A., George B. Hodge, Principal.

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- \* Accredited on subjects covered by certificates.
  - † Accredited to Freshmen.
  - ‡ Accredited to Freshmen and higher on specified subjects.
  - || Accredited to Freshmen, except one year of Latin in A. B. Course.

The lack of uniformity that still obtains with reference to High School Courses of Study in this State renders it difficult to indicate here the exact degree of credit that should be accorded these, where they are equivalent to something higher than the first year in college. It seems advisable, therefore, in most cases simply to accredit all alike to Freshmen, and provide for higher classification of the student by special certificate, should that be necessary.

An application from a Superintendent or Principal, requesting that his school be placed in a list with the above, should be accompanied by a report or catalogue of the school, giving the course of study. In case the latter is specific and the completion of it required for graduation, it may be accredited as a whole; otherwise each student's proficiency will be accredited in subjects covered by certificates from the Principal.

The sciences taught in the preparatory schools are accredited as such, not as substitutes for the subjects pursued in the college under the same name.

### MANUAL LABOR.

The work necessary for carrying on the agricultural and horticultural operations of the College is done by the students, and is paid for at rates varying from six to ten cents per hour. Its design is two-fold: to put in practice the instruction received in the class-room, and to assist students who are in need of money. The experience of this College is that of Agricultural Colleges generally—that compensated labor is not remunerative to the College.

*The College assumes no obligation to furnish students an opportunity to labor for compensation.*

Students are paid monthly for the service rendered, and apply the money as they see proper.

*No student, however, should come to this College expecting to maintain himself exclusively by compensated labor. At least seventy-five dollars per annum, exclusive of his earnings while here, should be at the command of every student who wishes to avail himself of the advantages of the system of compensated labor.*

**CERTIFICATES OF CHARACTER.**

All applicants for admission into any class of the College or Academy must bring satisfactory testimonials of good moral character.

**THE MONITRESS.**

The young women who attend the College have assigned for their exclusive use a large and well-appointed study-room. Here, while they are not engaged in the class-rooms or in the chapel, they are under the constant and strict supervision of the Monitress, Mrs. Blackburn, who has been long connected with the College and is well qualified for her duties.

## CALENDAR.

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### 1899.

Entrance Examinations begin . . . . .	Monday, Sept. 11th.
First Term begins . . . . .	Thursday, Sept. 14th.
Evening Reception to Students . . . . .	Friday, Sept. 29th.
Thanksgiving . . . . .	Thursday, Nov. 30th.
Board of Trustees meet . . . . .	Tuesday, Dec. 12th.
Christmas Holidays begin . . . . .	Wednesday, Dec. 20th.

### 1900.

College Duties resumed . . . . .	Monday, Jan. 1st, 8:30 A. M.
Second Term begins . . . . .	Monday, Jan. 22d.
Washington's Birthday . . . . .	Thursday, Feb. 22d.
Union Society Contest . . . . .	Thursday, Feb. 22d.
Patterson Society Contest . . . . .	Monday, March 26th.
Senior Examinations begin . . . . .	Monday, May 7th.
General Examinations begin . . . . .	Monday, May 14th.
Board of Trustees meet . . . . .	Tuesday, June 5th.
Class Day . . . . .	Wednesday, June 6th.
Alumni Banquet . . . . .	Wednesday, June 6th.
Commencement . . . . .	Thursday, June 7th.

## COLLEGE DIRECTORY.

## RESIDENCES.

## COLLEGE QUARTERS.

ANDERSON, F. PAUL, . . . . .	69 Kentucky Avenue, . . . . .	Mechanical Hall.
AUBREY, THOMAS, . . . . .	343 S. Limestone, . . . . .	College Boiler Room.
BLACKBURN, MRS. LUCY B., . . . . .	Central Avenue, . . . . .	No. 14, First Floor, College.
BLANTON, ROBERT L., . . . . .	Hotel Reed, . . . . .	No. 13, First Floor, College.
BROOKS, JOHN P., . . . . .	22 East High, . . . . .	Second Floor, Mechanical Hall.
BROWN, ERNEST F., . . . . .	242 N. Broadway, . . . . .	No. 8, First Floor, College.
CURTIS, HENRY E., . . . . .	126 S. Upper, . . . . .	Chemical Laboratory, Station.
DAVIS, JOSEPH M., . . . . .	16 Park Place, . . . . .	No. 1, Basement, College.
DeBow, S. C., . . . . .	196 E. High, . . . . .	Mechanical Hall.
DICKER, JOSEPH, . . . . .	26 Virginia Avenue, . . . . .	Mechanical Hall.
FAIG, JOHN T., . . . . .	178 W. Main, . . . . .	Mechanical Hall.
GARMAN, HARRISON, . . . . .	424 S. Limestone, . . . . .	Basement, Station.
HARPER, JOSEPH N., . . . . .	176 S. Limestone, . . . . .	Experiment Farm.
HERNDON, D. J., . . . . .	24 S. Limestone, . . . . .	U. S. Weather Bureau.
HODGES, MISS MARY, . . . . .	111 Market, . . . . .	No. 10, First Floor, College.
JOHNSON, JAMES R., . . . . .	71 Woodland Ave., . . . . .	Woodshop, Mechanical Hall.
JONES, M. B., . . . . .	Campus, . . . . .	No. 5, Basement, College.
KASTLE, JOSEPH H., . . . . .	175 E. Maxwell, . . . . .	Chemical Laboratory, Station.
LOGAN, J. LEWIS, . . . . .	132 S. Broadway, . . . . .	No. 2, Basement, College.
MATHEWS, C. W., . . . . .	410 S. Limestone, . . . . .	First Floor, Science Hall.
MILLER, ARTHUR M., . . . . .	107 E. Maxwell, . . . . .	1st and 2d Floors, Science Hall.
MILLIGAN, R. A., . . . . .	492 S. Limestone, . . . . .	Mechanical Hall.
MUNCY, V. E., . . . . .	116 E. Maxwell, . . . . .	No. 10, First Floor, College.
MURRAY, JAMES, . . . . .	428 S. Limestone, . . . . .	College Observatory.
NEVILLE, JOHN H., . . . . .	218 W. Main, . . . . .	No. 21, Third Floor, College.
PATTERSON, JAMES K., . . . . .	President's House, . . . . .	No. 12, First Floor, College
PATTERSON, WALTER K., . . . . .	President's House, . . . . .	No. 17, Second Floor, College.
PENCE, M. L., . . . . .	108 Merino, . . . . .	Nos. 5 and 7, Basement, College.
PETER, ALFRED M., . . . . .	236 E. Maxwell, . . . . .	Chemical Laboratory, Station.
PRYOR, JOSEPH W., . . . . .	135 N. Broadway, . . . . .	Second Floor, Science Hall.
RHORER, EDWARD, . . . . .	116 W. Short, . . . . .	Office, Station.
ROARK, RURIC N., . . . . .	420 S. Limestone, . . . . .	No. 11, First Floor, College.
SAUNDERS, JAMES E., . . . . .	14 Virginia Avenue, . . . . .	Mechanical Hall.
SCOVELL, M. A., . . . . .	Experiment Farm, . . . . .	Office, Station.
SHACKLEFORD, JOHN, . . . . .	15 E. Maxwell, . . . . .	No. 19, Second Floor, College.
STURDEVANT, CHARLES R., . . . . .	172 W. Maxwell, . . . . .	Mechanical Hall.
WERNICKE, PAUL, . . . . .	107 E. Maxwell, . . . . .	First Floor, Science Hall.
WHITE, JAMES G., . . . . .	140 E. Maxwell, . . . . .	No. 15, First Floor, College.
WHITE, MILFORD, . . . . .	219 S. Limestone, . . . . .	No. 9, First Floor, College.



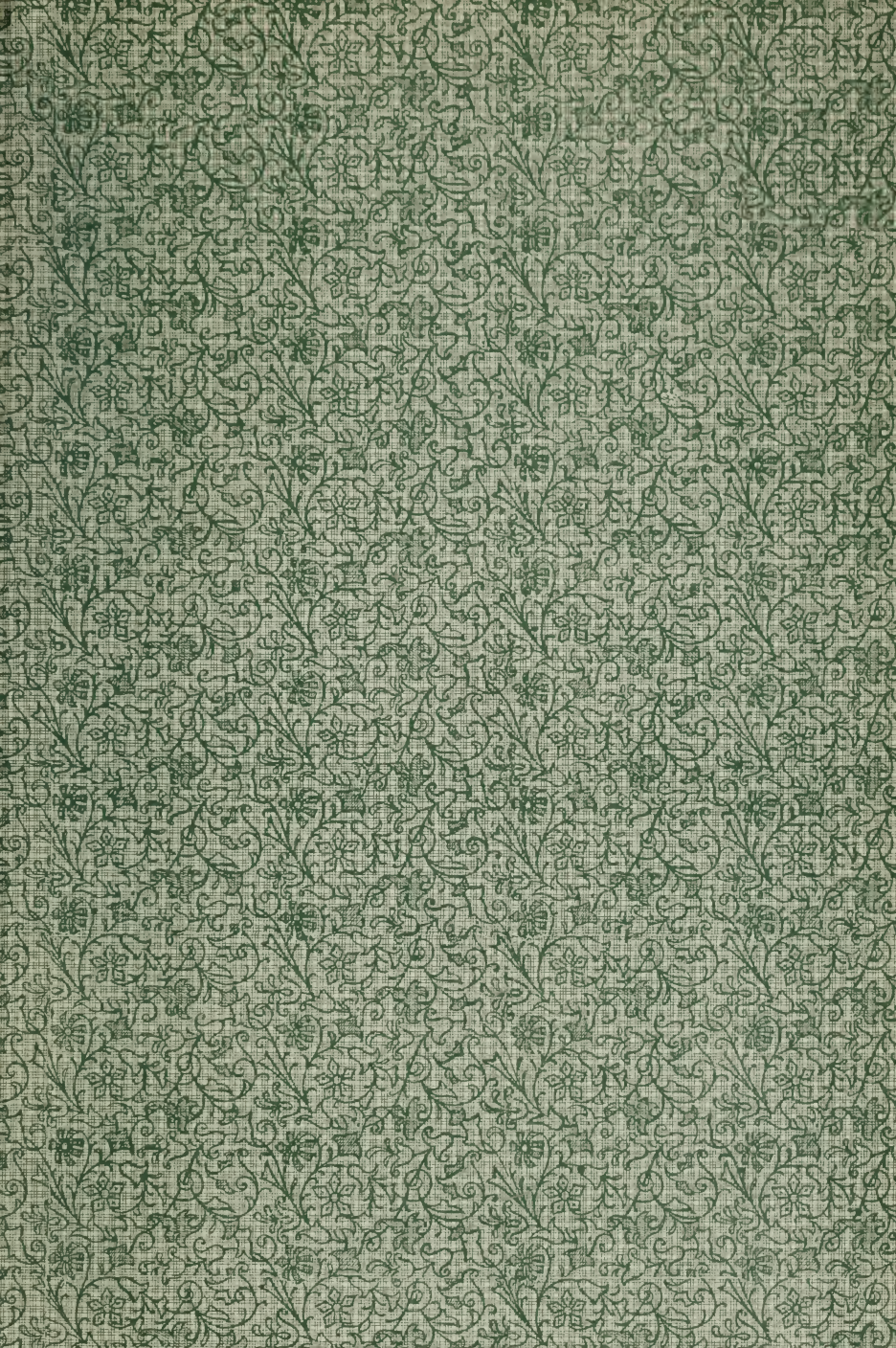














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